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SERVICE MANUAL DVD-909/709

SAMSUNG

# DVD PLAYER

**DVD-909**

**DVD-709**

# *SERVICE Manual*

## DVD PLAYER

**DVD-909**

**DVD-709**

## CONTENTS

1. Precautions

2. Reference Information

3. Product Specification

4. Operating Instructions

5. Disassembly and Reassembly

6. Circuit Descriptions

7. Troubleshooting

8. Exploded Views and Parts List

9. Electrical Parts List

10. Block Diagrams

11. PCB Diagrams

12. Wiring Diagram

13. Schematic Diagrams

# 1. Precautions

## 1-1 Safety Precautions

1) Before returning an instrument to the customer, always make a safety check of the entire instrument, including, but not limited to, the following items:

(1) Be sure that no built-in protective devices are defective or have been defeated during servicing. (1)Protective shields are provided to protect both the technician and the customer. Correctly replace all missing protective shields, including any remove for servicing convenience.
(2)When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including, but not limited to, nonmetallic control knobs, insulating fish papers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning.

(2) Be sure that there are no cabinet openings through which adults or children might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, excessively wide cabinet ventilation slots, and an improperly fitted and/or incorrectly secured cabinet back cover.

(3) Leakage Current Hot Check-With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use a isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1270 (40.7). With the instrument's AC switch first in the ON position and then in the OFF position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinets, screwheads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis.
Any current measured must not exceed 0.5mA. Reverse the instrument power cord plug in the outlet and repeat the test. See Fig. 1-1.
Any measurements not within the limits specified herein indicate a potential shock hazard that must be eliminated before returning the instrument to the customer.

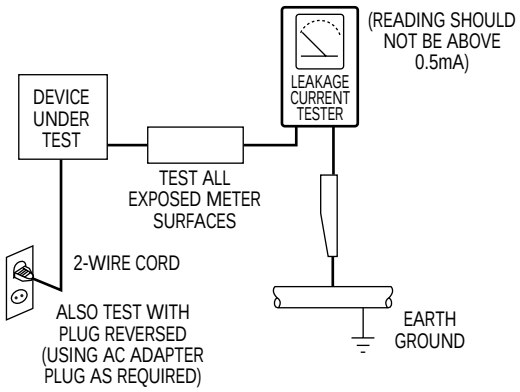

(READING SHOULD NOT BE ABOVE 0.5mA)
LEAKAGE CURRENT TESTER
DEVICE UNDER TEST
TEST ALL EXPOSED METER SURFACES
2-WIRE CORD
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUG AS REQUIRED)
EARTH GROUND

Fig. 1-1 AC Leakage Test

(4) Insulation Resistance Test Cold Check-(1) Unplug the power supply cord and connect a jumper wire between the two prongs of the plug. (2) Turn on the power switch of the instrument. (3) Measure the resistance with an ohmmeter between the jumpered AC plug and all exposed metallic cabinet parts on the instrument, such as screwheads, antenna, control shafts, handle brackets, etc. When an exposed metallic part has a return path to the chassis, the reading should be between 1 and 5.2 megohm. When there is no return path to the chassis, the reading must be infinite. If the reading is not within the limits specified, there is the possibility of a shock hazard, and the instrument must be re-pared and rechecked before it is returned to the customer. See Fig. 1-2.

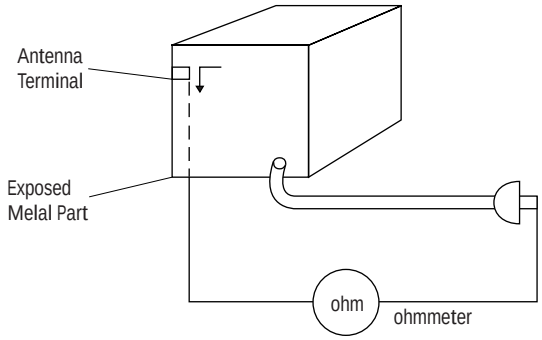



Fig. 1-2 Insulation Resistance Test

2) Read and comply with all caution and safety related notes non or inside the cabinet, or on the chassis.

3) Design Alteration Warning-Do not alter of add to the mechanical or electrical design of this instrument. Design alterations and additions, including but not limited to, circuit modifications and the addition of items such as auxiliary audio output connections, might alter the safety characteristics of this instrument and create a hazard to the user. Any design alterations or additions will make you, the service, responsible for personal injury or property damage resulting therefrom.

4) Observe original lead dress. Take extra care to assure correct lead dress in the following areas:
(1) near sharp edges, (2) near thermally hot parts (be sure that leads and components do not touch thermally hot parts), (3) the AC supply, (4) high voltage, and (5) antenna wiring. Always inspect in all areas for pinched, out-of-place, or frayed wiring, Do not change spacing between a component and the printed-circuit board. Check the AC power cord for damage.

5) Components, parts, and/or wiring that appear to have overheated or that are otherwise damaged should be replaced with components, parts and/ or wiring that meet original specifications.
Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

6) Product Safety Notice-Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by shading, an ( ⚠ )or a ( ⚠ )on schematics and parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might created shock, fire and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate.

## 1-2 Servicing Precautions

**CAUTION :** Before servicing Instruments covered by this service manual and its supplements, read and follow the Safety Precautions section of this manual.

**Note :** If unforseen circument create conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions. Remember: Safety First.

### 1-2-1 General Servicing Precautions

(1) a. Always unplug the instrument's AC power cord from the AC power source before (1) re-moving or reinstalling any component, circuit board, module or any other instrument assembly, (2) disconnecting any instrument electrical plug or other electrical connection, (3) connecting a test substitute in parallel with an electrolytic capacitor in the instrument.

b. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service manual might be equipped.

c. Do not apply AC power to this instrument and /or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.

d. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.

**Note :** Refer to the Safety Precautions section ground lead last.

(2) The service precautions are indicated or printed on the cabinet, chassis or components. When servicing, follow the printed or indicated service precautions and service materials.

(3) The components used in the unit have a specified flame resistance and dielectric strength.
When replacing components, use components which have the same ratings. Components i-entified by shading, by(⚠) or by (⚠) in the circuit diagram are important for safety or for the characteristics of the unit. Always replace them with the exact replacement components.

(4) An insulation tube or tape is sometimes used and some components are raised above the printed wiring board for safety. The internal wiring is sometimes clamped to prevent contact with heating components. Install such elements as they were.

(5) After servicing, always check that the removed screws, components, and wiring have been installed correctly and that the portion around the serviced part has not been damaged and so on. Further, check the insulation between the blades of the attachment plug and accessible conductive parts.

### 1-2-2 Insulation Checking Procedure

Disconnect the attachment plug from the AC outlet and turn the power ON. Connect the insulation resistance meter (500V) to the blades of the attachment plug. The insulation resistance between each blade of the attachment plug and accessible conductive parts(see note) should be more than 1 Megohm.

**Note :** Accessible conductive parts include metal panels, input terminals, earphone jacks, etc.

# 1-3 ESD Precautions

## Electrostatically Sensitive Devices (ESD)

Some semiconductor (solid state) devices can be damaged easily by static electricity.
Such components commonly are called Electrostatically Sensitive Devices(ESD). Examples of typical ESD devices are integrated circuits and some field-effect transistors and semiconductor chip components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

(1) Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.

(2) After removing an electrical assembly equipped with ESD devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

(3) Use only a grounded-tip soldering iron to solder or unsolder ESD devices.

(4) Use only an anti-static solder removal devices. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESD devices.

(5) Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESD devices.

(6) Do not remove a replacement ESD device from its protective package until immediately before your are ready to install it.(Most replacement ESD devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive materials).

(7) Immediately before removing the protective materials from the leads of a replacement ESD device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**CAUTION :** Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

(8) Minimize bodily motions when handling unpackaged replacement ESD devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ESD device).

## 1-4 Handling the optical pick-up

The laser diode in the optical pick up may suffer electrostatic breakdown because of potential static electricity from clothing and your body.

The following method is recommended.

(1) Place a conductive sheet on the work bench (The black sheet used for wrapping repair parts.)

(2) Place the set on the conductive sheet so that the chassis is grounded to the sheet.

(3) Place your hands on the conductive sheet(This gives them the same ground as the sheet.)

(4) Remove the optical pick up block

(5) Perform work on top of the conductive sheet. Be careful not to let your clothes or any other static sources to touch the unit.

- Be sure to put on a wrist strap grounded to the sheet.
- Be sure to lay a conductive sheet made of copper etc. Which is grounded to the table.

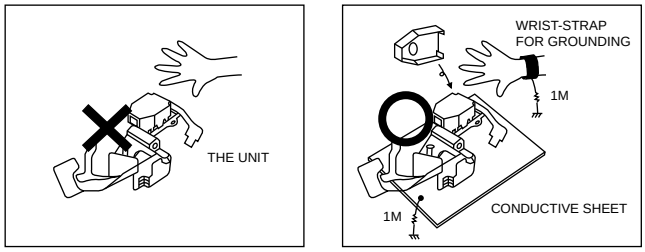



Fig.1-3

(6) Short the short terminal on the PCB, which is inside the Pick-Up ASS'Y, before replacing the Pick-Up. (The short terminal is shorted when the Pick-Up Ass'y is being lifted or moved.)

(7) After replacing the Pick-up, open the short terminal on the PCB.

## 1-5 Pick-up disassembly and reassembly

### 1-5-1 Disassembly

1) Remove the power cable.
2) Switch SW3 on deck PCB to “OFF” before removing the FPC.
   ( Inserted into Main PCB CN6. See Fig. 1-4)
3) Disassemble the deck.
4) Disassemble the deck PCB.

### 1-5-2 Assembly

1) Replace the Pick-up.
2) Assemble the deck PCB.
3) Reassemble the deck.
4) Insert FPC into Main PCB CN6 and switch SW3 on deck PCB to “ON”. (See Fig 1-4)

**Note :** If the assembly and disassembly are not done in correct sequence, the Pick-up may be damaged.

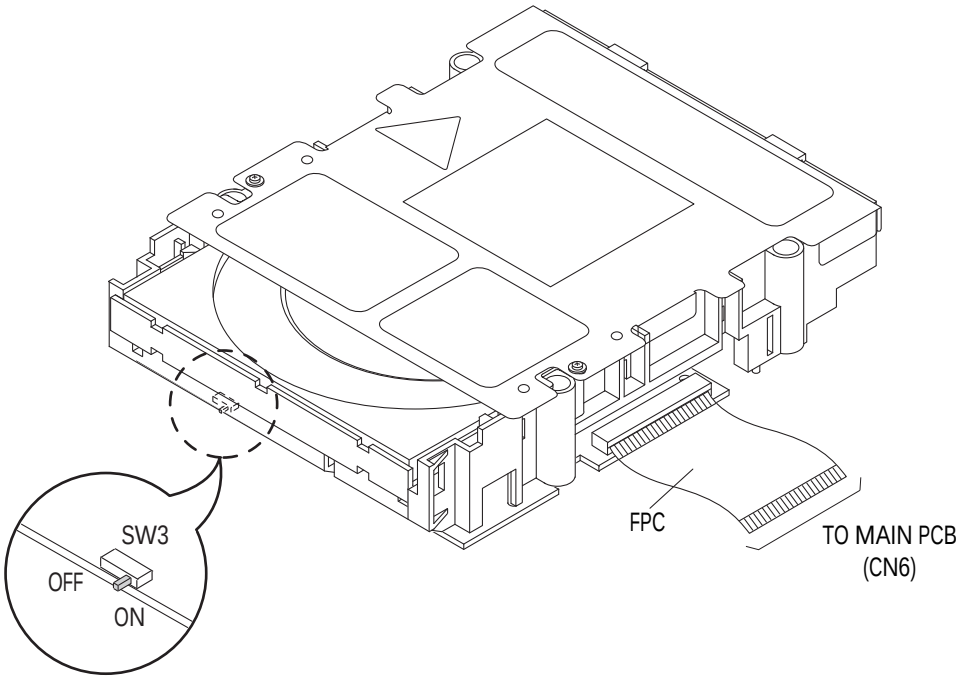
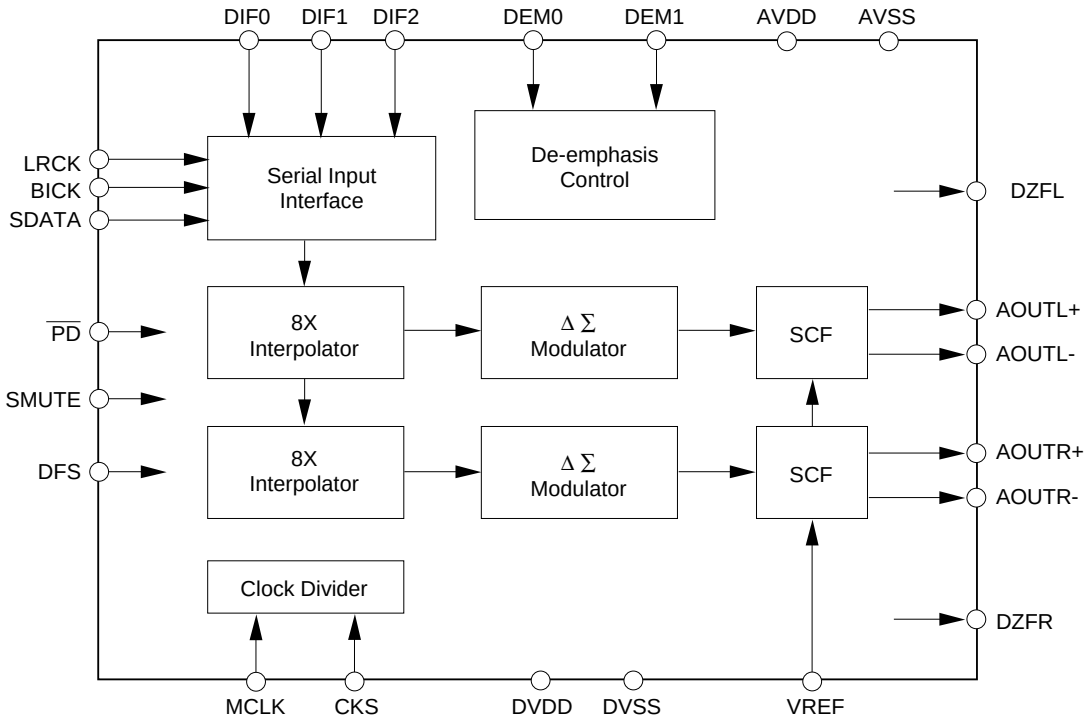



Fig. 1-4

# 2. Reference Information

## 2-1 IC Dsecriptions

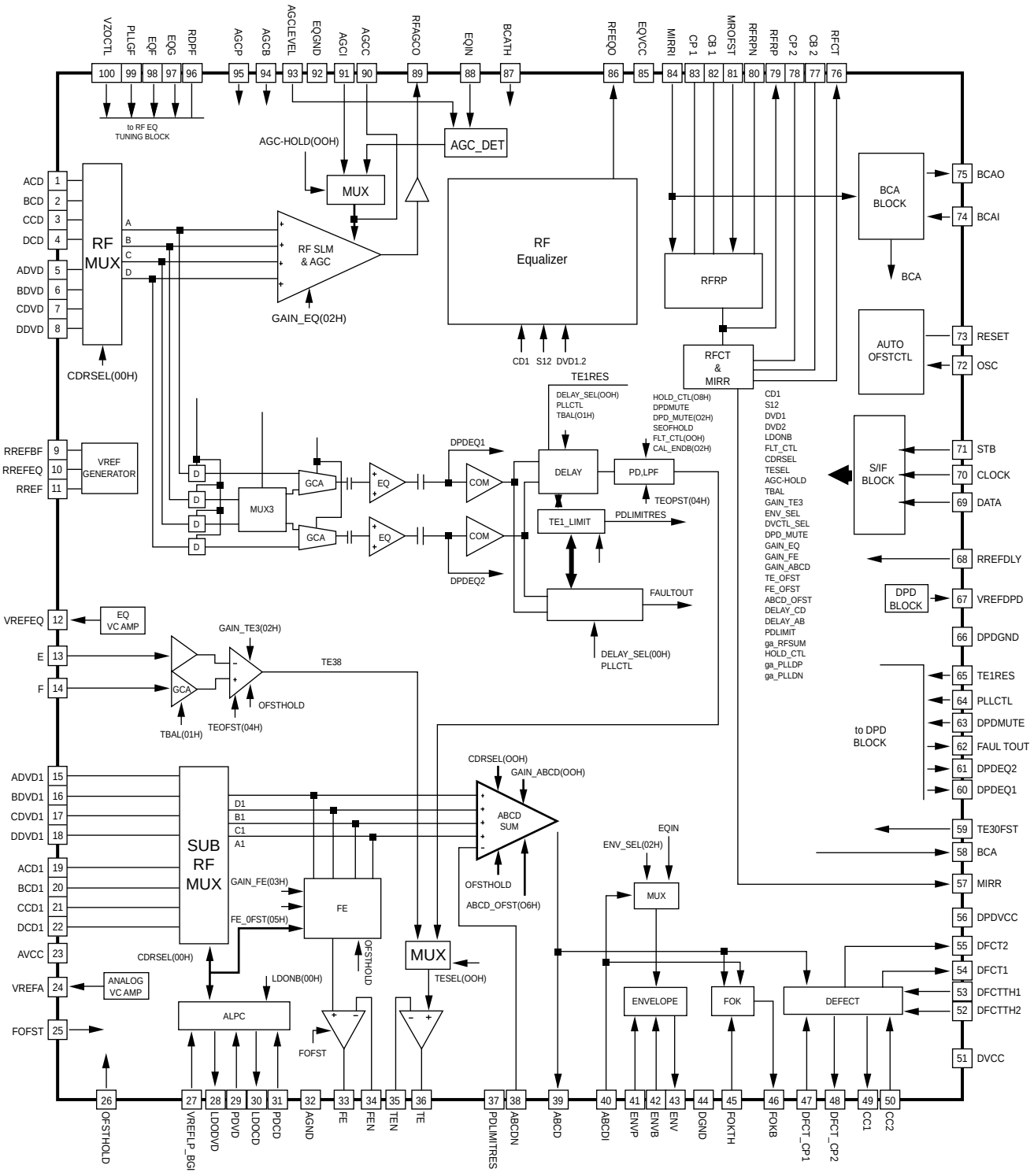
### 2-1-1 AIC1 (AK4324 ; Digital-to-Analog Converter)




| PIN | I/O | NAME | FUNCTION | PIN | I/O | NAME | FUNCTION |
|---|---|---|---|---|---|---|---|
| 1 | - | DVSS | Digital ground pin | 13 | I | DIF0 | Digital input format pin |
| 2 | I | DVDD | Digital power supply | 14 | I | DIF1 | Digital input format pin |
| 3 | I | CKS | Master clock select pin (Internal pull-down pin)<br>Nomal speed "L":MCLK = 256fs, "H":MCLK = 384fs<br>Double speed "L":MCLK = 128fs, "H":MCLK = 192fs | 15 | I | DIF2 | Digital input format pin |
| 4 | I | MCLK | Master clock input pin | 16 | O | AOUTR- | Rch negative analog output pin |
| 5 | I | $\overline{PD}$ | Power-Down mode pin. When at "L", the AK4324 is in power-down and is held in rest.<br>The AK4324 should always be reset upon power-pin | 17 | O | AOUTR+ | Rch positive analog output pin |
| 6 | I | BICK | Audio serial data input pin<br>64fs clock is recommended to be input on this pin | 18 | O | AOUTL- | Lch negative analog output pin |
| 7 | I | SDATA | Audio serial data input pin<br>2's complement MSB-first data is input on this pin. | 19 | O | AOUTL+ | Lch positive analog output pin |
| 8 | I | LRCK | L/R clock pin. | 20 | - | AVSS | Analog ground pin |
| 9 | I | SMUTE | Soft mute pin<br>When this pin goes "H", soft mute cycle is initiated<br>When returning "L", the output mute releases. | 21 | O | VREF | Voltage reference input pin |
| 10 | I | DFS | Double speed sampling mode pin (Internal pull-down pin)<br>"L":normal speed, "H":double speed | 22 | O | AVDD | Analog power supply pin. |
| 11 | I | DEM0 | De-emphasis frequency select pin | 23 | O | DZFR | Rch zero input detect pin |
| 12 | I | DEM1 | De-emphasis frequency select pin | 24 | O | DZFL | Lch zero input detect pin |

Note : Allinput pins except internal pull-down pins should not be left floating.

## 2-1-2 RIC1 (KS1461 ; RF)



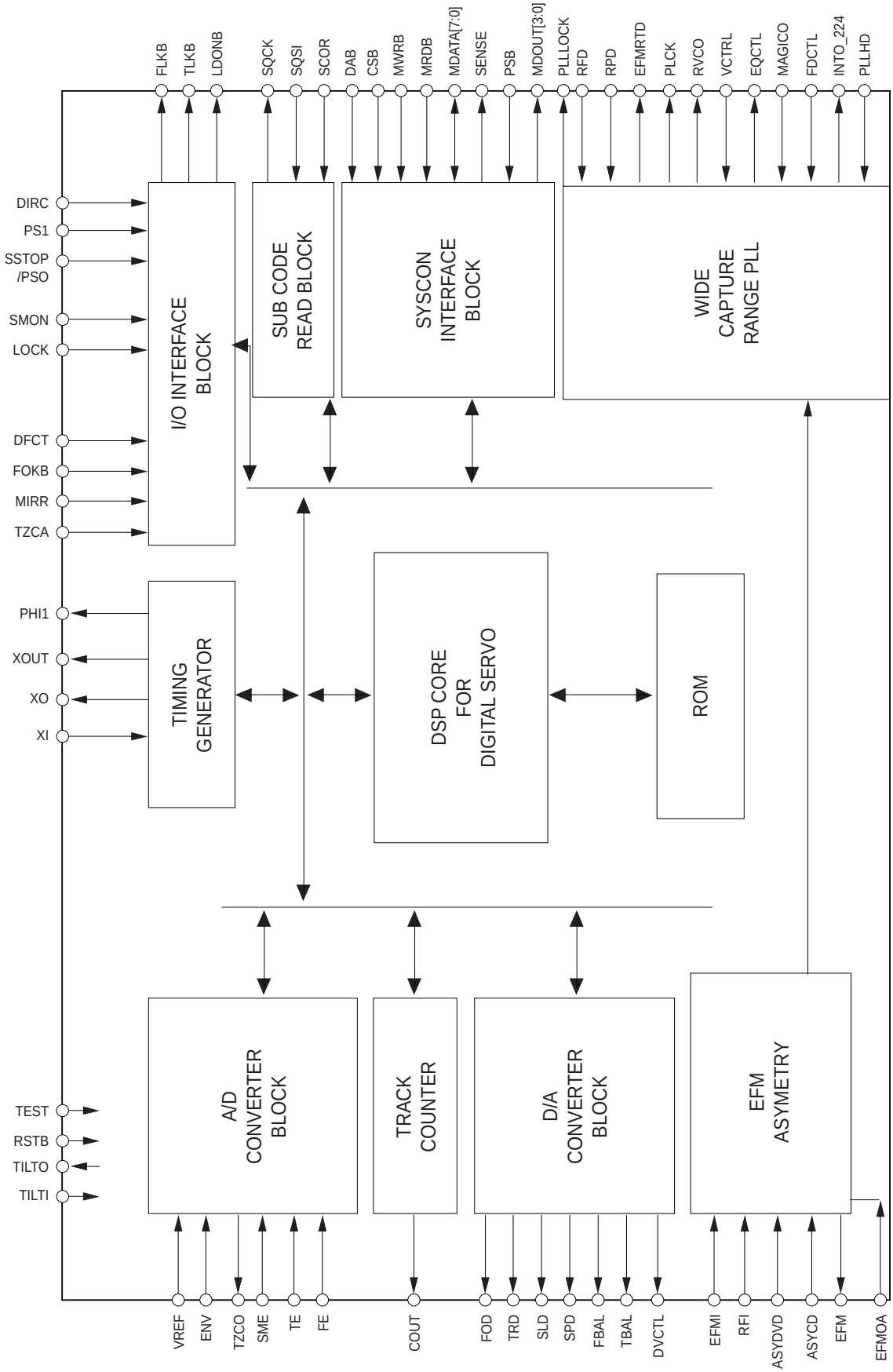
| PIN NAME | | I/O | FUNCTION |
|---|---|---|---|
| 1 | ACD | I | CD optical main beam A AC coupling input port for RF |
| 2 | BCD | I | CD optical main beam B AC coupling input port for RF |
| 3 | CCD | I | CD optical main beam C AC coupling input port for RF |
| 4 | DCD | I | CD optical main beam D AC coupling input port for RF |
| 5 | ADVD | I | DVD optical main beam A AC coupling input port for RF |
| 6 | BDVD | I | DVD optical main beam B AC coupling input port for RF |
| 7 | CDVD | I | DVD optical main beam C AC coupling input port for RF |
| 8 | DDVD | I | DVD optical main beam D AC coupling input port for RF |
| 9 | RREFBF | - | RF AMP I/O buffer bias resistance connection port |
| 10 | RREFEQ | - | RF EQ bias resistance connection port |
| 11 | RREF | - | Analog block bias resistance connection port |
| 12 | VREFEQ | O | CAP connection port for RF EQ center voltage |
| 13 | E | I | CD optical sub beam E input port for SERVO |
| 14 | F | I | CD optical sub beam F input port for SERVO |
| 15 | ADVD1 | I | DVD optical main beam A input port for SERVO |
| 16 | BDVD1 | I | DVD optical main beam B input port for SERVO |
| 17 | CDVD1 | I | DVD optical main beam C input port for SERVO |
| 18 | DDVD1 | I | DVD optical main beam D input port for SERVO |
| 19 | ACD1 | I | CD optical main beam F input port for SERVO |
| 20 | BCD1 | I | CD optical main beam F input port for SERVO |
| 21 | CCD1 | I | CD optical main beam F input port for SERVO |
| 22 | DCD1 | I | CD optical main beam F input port for SERVO |
| 23 | AVCC | P | Power voltage input port for analog part |
| 24 | VREFA | -/O | CAP connection port for analog part center voltage, Use at other block |
| 25 | FOFST | O | CAP connection port for focus auto offset (OPEN) |
| 26 | OFSTHOLD | I | ON/OFF connection port for auto offset block (L : auto offset adjustment H : serial offset adjustment) |
| 27 | VREFLP_BGI | I | BANDGAP voltage input port for ALPC |
| 28 | LDODVD | O | DVD optical laser diode driving voltage output port |
| 29 | PDDVD | I | DVD optical laser monitor diode voltage input port |
| 30 | LDOCD | O | CD optical laser diode driving voltage output port |
| 31 | PDCD | I | CD optical laser monitor diode voltage input port |
| 32 | AGND | P | Power GND port for analog part |
| 33 | FE | O | FE AMP output port |

| PIN NAME | | I/O | FUNCTION |
|---|---|---|---|
| 34 | FEN | I | FE Input port for AMP GAIN setting |
| 35 | TEN | I | Input port for TE AMP GAIN setting |
| 36 | TE | O | TE AMP output port |
| 37 | PDLIMTRES | - | Bias resistance port for PDLIMIT |
| 38 | ABCDN | I | Input port for ABCD AMP GAIN setting |
| 39 | ABCD | O | ABCD AMP output port |
| 40 | ABCDI | I | ABCD AC coupling input port for SERVO monitor |
| 41 | ENVP | - | Peak hold time constant setting RC connection port for RF envelope detect |
| 42 | ENVB | - | Bottom hold time constant setting RC connection port for RF envelope detect |
| 43 | ENV | O | RF envelope detect output port |
| 44 | DGND | P | Power GND input port for digital circuit |
| 45 | FOKTH | I | Focus OK comparing level input port |
| 46 | FOKB | O | Focus OK comparator output port (L: FOCUS OK) |
| 47 | DFCT_CP1 | - | Peak hold time constant connection port SERVO defect max. time setting |
| 48 | DFCT_CP2 | - | Peak hold time constant connection port PLL defect min. time setting |
| 49 | CC1 | O | Output port of peak detector for defect |
| 50 | CC2 | I | AC coupling input port for defect |
| 51 | DVCC | P | Power voltage input port for digital circuit |
| 52 | DVCTTH2 | - | Resistance connection port for PLL defect comparating level setting |
| 53 | DFCTTH1 | - | Resistance connection port for SERVO defect comparating level setting |
| 54 | DFCT1 | O | Defect output port for SERVO |
| 55 | DFCT2 | O | Defect output port for PLL |
| 56 | DPDVCC | P | Power voltage input port for DPD TE |
| 57 | MIRR | O | Mirror output port |
| 58 | BCA | O | BCA output port |
| 59 | TE3OFST | - | Resistance connection port for 3BTE offset |
| 60 | DPDEQ1 | O | DPD EQ (A+C) output port |
| 61 | DPDEQ2 | O | DPD EQ (B+D) output port |
| 62 | FAULTOUT | O | DPD defect waveform output port (MONITOR) |
| 63 | DPDMUTE | I | DPD TE MUTE control port (H : MUTE) |
| 64 | PLLCTL | I | DPD TE PLL variable input port |

| PIN NAME | | I/O | FUNCTION |
|---|---|---|---|
| 65 | TE1RES | I | DPD TE PLL variable bias resistance |
| 66 | DPDGND | P | Power GND input port for DPD TE |
| 67 | VREFDPD | O | CAP connection port for DPD TE center |
| 68 | RREFDLY | - | Bias resistance connection port for delta block |
| 69 | DATA | I | Data input port |
| 70 | CLOCK | I | Clock input port |
| 71 | STB | I | Data enable input port |
| 72 | OSC | | OSC time constant input port for auto offset block |
| 73 | RESET | I | Reset input port for auto offset block (L : RESET) |
| 74 | BCAI | I | BCA FILTER1 |
| 75 | BCAO | O | BCA FILTER2 |
| 76 | RFCT | O | RF ripple center voltage output port for mirror |
| 77 | CB2 | - | Bottom hold time constant RC connection port for RFCT generation |
| 78 | CP2 | - | Peak hold time constant RC connection port for RFCT generation |
| 79 | RFRP | O | RF ripple AMP output port for mirror |
| 80 | RFRPN | I | RF ripple AMP GAIN input port for mirror |
| 81 | MROFST | I | RF ripple offset control port for mirror |
| 82 | CB1 | - | Bottom hold time constant RC connection port for RFCT generation |
| 83 | CP1 | - | Peak hold time constant RC connection port for RFCT generation |
| 84 | MIRRI | I | Input port for MIRR signal generation |
| 85 | EQVCC | P | Power voltage input port for RF EQ |
| 86 | RFEQO | O | RF EQ output port |
| 87 | BCATH | I | BCA comparating level control port |
| 88 | EQIN | I | RFAGCO input port for RF EQ |
| 89 | RFAGCO | O | RF AGC AMP output port |
| 90 | AGCC | - | AGC time constant CAP connection port |
| 91 | AGCI | I | When AGC is “HOLD”, AGC voltage input port |
| 92 | EQGND | P | Power GND input port for RF EQ |
| 93 | AGCLEVEL | I | AGC level control voltage input port |
| 94 | AGCB | - | RF bottom hold time constant RC connection port for RF AGC |
| 95 | AGCP | - | RF peak hold time constant RC connection port for RF AGC |

| PIN NAME | | I/O | FUNCTION |
|---|---|---|---|
| 96 | RDPF | - | Bias resistance connection port for RF EQ frequency setting |
| 97 | EQG | I | RF EQ boost gain control voltage input port |
| 98 | EQF | I | RF EQ peak frequency control voltage input port |
| 99 | PLLGF | I | RF EQ boost, peak frequency gain control port corresponding to wideband PLL (PLLG. PLLF resistance internal design) |
| 100 | VZOCTL | I | RF EQ control port (When No. PLLG isn't adjusted, apply DC CTL voltage.) |

## 2-1-3 SIC1 (KS1452 ; Digital Servo)



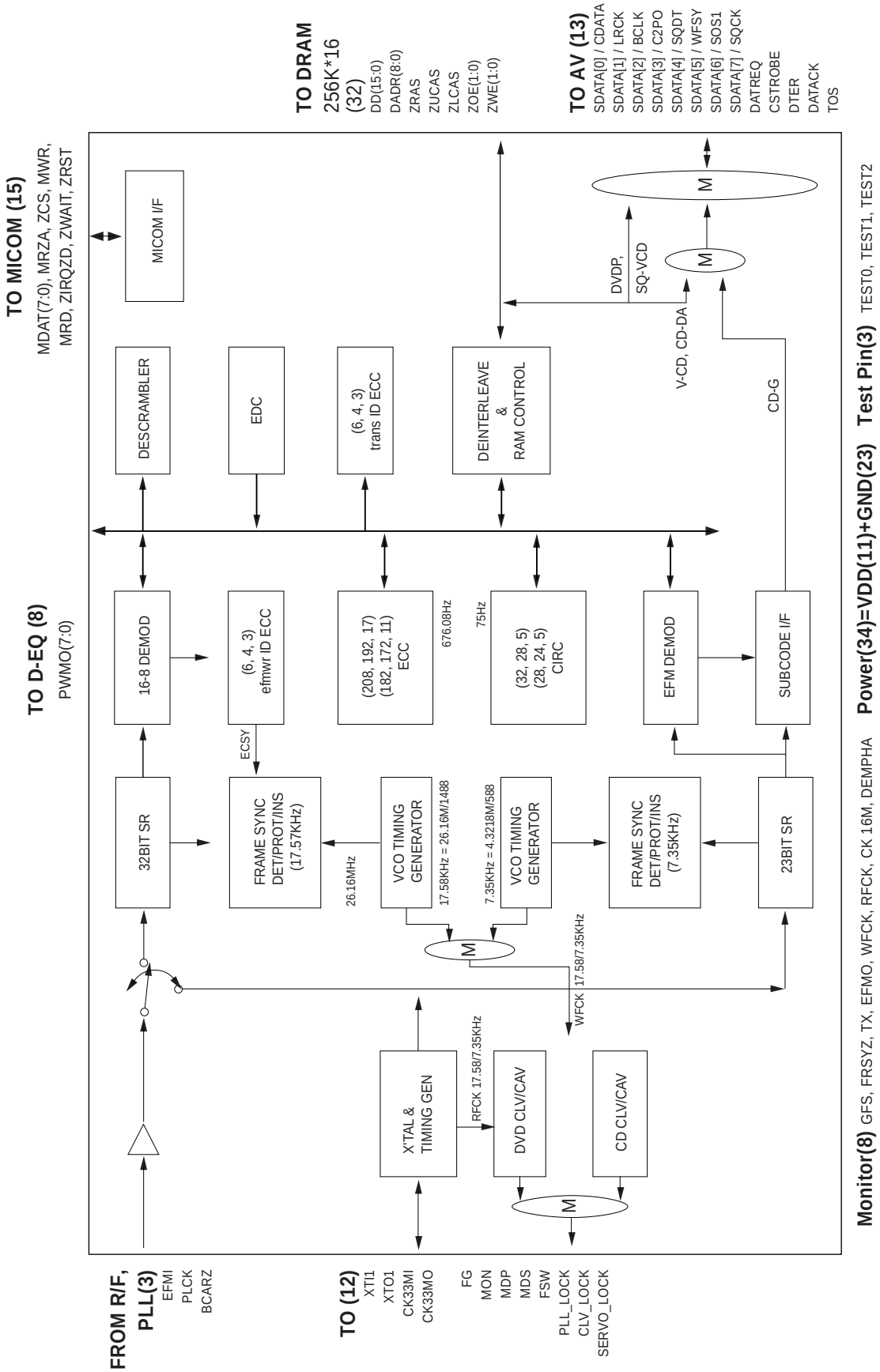
| PIN NAME | | I/O | FUNCTION |
|---|---|---|---|
| 1 | MDOUT3 | O | Mode data3 out controlled by micom |
| 2 | SSTOP/PSO | I | Limit switch/sled position sensor input pin0 |
| 3 | PS1 | I | Sled motor position sensor input pin 1 |
| 4 | TEST | I | Test pin (L : normal H : test) |
| 5 | COUT | O | Counter clock |
| 6 | FLKB | O | Focus servo lock signal output pin |
| 7 | TLKB | O | Tracking servo lock signal output pin |
| 8 | PSB | I | 0 : 1BIT 1 : 8BIT |
| 9 | RSTB | I | System reset signal input pin |
| 10 | CSB | I | Micom chip select pin |
| 11 | DAB | I | Micom data/address select pin |
| 12 | MWRB | I | Micom write clock signal input pin |
| 13 | MRDB | I | Micom read clock signal input pin |
| 14 | MDATA0 | I/O | Micom data pin 0 |
| 15 | MDATA1 | I/O | Micom data pin 1 |
| 16 | MDATA2 | I/O | Micom data pin 2 |
| 17 | MDATA3 | I/O | Micom data pin 3 |
| 18 | MDATA4 | I/O | Micom data pin 4 |
| 19 | MDATA5 | I/O | Micom data pin 5 |
| 20 | MDATA6 | I/O | Micom data pin 6 |
| 21 | MDATA7 | I/O | Micom data pin 7 |
| 22 | SENSE | O | Internal status monitor pin |
| 23 | DVDD | P | Servo logic & ROM VDD power supply pin |
| 24 | XI | I | System clock signal input pin |
| 25 | XO | O | System clock signal output pin |
| 26 | XOUT | O | Clock out (33.9688MHz) to DSP |
| 27 | DVSS | P | Servo logic & ROM VSS power supply pin |
| 28 | SQCK | O | Clock output pin for subcode data read |
| 29 | SQSI | I | Subcode data input pin |
| 30 | SCOR | I | Timing detection input pin for subcode data read |
| 31 | SMON | I | Motor ON signal input pin |
| 32 | LOCK | I | Lock signal input pin |
| 33 | DIRC | I | Direct jump control (for 1 track jump) |

| PIN NAME | | I/O | FUNCTION |
|---|---|---|---|
| 34 | FOKB | I | Focus OK signal input pin |
| 35 | FDCTL | I | PLL frequency detect control input pin |
| 36 | LDONB | O | Laser diode ON signal output pin |
| 37 | DFCT | I | Defect Detection signal input pin |
| 38 | MIRR | I | Mirror signal input pin |
| 39 | PLLHD | I | PLL hold signal from micom |
| 40 | INTO_224 | O | Servo interrupt monitor pin |
| 41 | PVDD | P | PLL logic block VDD power supply pin |
| 42 | PLCK | O | PLCK |
| 43 | PLLLOCK | O | Frequency lock detect output (H : Lock L : Unlock) |
| 44 | EFMRTD | O | Latched EFM output signal |
| 45 | PVSS | P | PLL logic block VSS power supply pin |
| 46 | RVCO | I | Resistor pin for VCO GAIN |
| 47 | RFD | I | Gain adjust resister for frequence detector |
| 48 | RPD | I | Gain adjust resister for phase detector |
| 49 | VCTL | I | Control voltage for VCO |
| 50 | MAGICO | I | Input for hysteresis control of FD output (for test) |
| 51 | EFMOA | I | EFM offset adjustment pin |
| 52 | TZCO | O | Tracking zero cross output pin |
| 53 | SVDD | P | Servo CPU VDD power supply pin |
| 54 | EQCTL | O | EQ control signal |
| 55 | EFMI | I | EFM signal for test |
| 56 | EFMO | O | EFM signal |
| 57 | LPFDVD | I | Asymmetric input signal for DVD |
| 58 | LPFCD | I | Asymmetric input signal for CD |
| 59 | RFI | I | RF input signal |
| 60 | SVSS | P | Servo CPU VSS power supply pin |
| 61 | AVSS | P | Analog block VSS power supply pin |
| 62 | SME | I | Spindle error input pin |
| 63 | VREF | I | Reference voltage input pin |
| 64 | TE | I | Tracking error signal input pin |

| PIN NAME | | I/O | FUNCTION |
|---|---|---|---|
| 65 | FE | I | Focus error signal input pin |
| 66 | ENV | I | RF envelope input pin |
| 67 | TILTI | I | Tilt in (reserved) |
| 68 | AVDD | P | Analog block VDD power supply pin |
| 69 | TILTO | O | Tilt out (reserved) |
| 70 | DVCTL | O | Depth variation control signal output pin |
| 71 | TBAL | O | Tracking balance signal output pin |
| 72 | FBAL | O | Focus balance signal output pin |

| PIN NAME | | I/O | FUNCTION |
|---|---|---|---|
| 73 | SLD | O | Sled motor drive signal output pin |
| 74 | SPD | O | Spindle motor drive signal output pin |
| 75 | FOD | O | Focus actuator drive signal output pin |
| 76 | TRD | O | Tracking actuator drive signal output pin |
| 77 | TZCA | I | TE signal for tracking zero cross input pin |
| 78 | MDOUT0 | O | Mode data 0 out controlled by micom |
| 79 | MDOUT1 | O | Mode data 1 out controlled by micom |
| 80 | MDOUT2 | O | Mode data 2 out controlled by micom |

## 2-1-4 DIC1 (KS1453 ; DVD Data Processor)



| PIN | NAME | FUNCTION |
|---|---|---|
| 1 | DVSS | Digital GND (0V) |
| 2 | ZCS_IN | Chip select (Active Low) |
| 3 | MRZA_IN | Micom register select<br>(L -> Register H -> Data) |
| 4 | DVSS | Digital GND (0V) |
| 5 | MDAT7_BI | Micom data bus |
| 6 | MDAT6_BI | Micom data bus |
| 7 | MDAT5_BI | Micom data bus |
| 8 | MDAT4_BI | Micom data bus |
| 9 | MDAT3_BI | Micom data bus |
| 10 | MDAT2_BI | Micom data bus |
| 11 | MDAT1_BI | Micom data bus |
| 12 | MDAT0_BI | Micom data bus |
| 13 | DVDD | Digital power (+5V) |
| 14 | XTI_IN | System clock input for 26.16 MHz |
| 15 | XTO_OUT | System clock output for 26.16 MHz |
| 16 | DVSS | Digital GND (0V) |
| 17 | DD15_BI | DRAM data bus |
| 18 | DD0_BI | DRAM data bus |
| 19 | DD14_BI | DRAM data bus |
| 20 | DD1_BI | DRAM data bus |
| 21 | DVSS | Digital GND (0V) |
| 22 | DD13_BI | DRAM data bus |
| 23 | DD2_BI | DRAM data bus |
| 24 | DD12_BI | DRAM data bus |
| 25 | DD3_BI | DRAM data bus |
| 26 | DVDD | Digital power (+5V) |
| 27 | DD11_BI | DRAM data bus |
| 28 | DD4_BI | DRAM data bus |
| 29 | DD10_BI | DRAM data bus |
| 30 | DD5_BI | DRAM data bus |
| 31 | DVSS | Digital GND (0V) |
| 32 | DD9_BI | DRAM data bus |

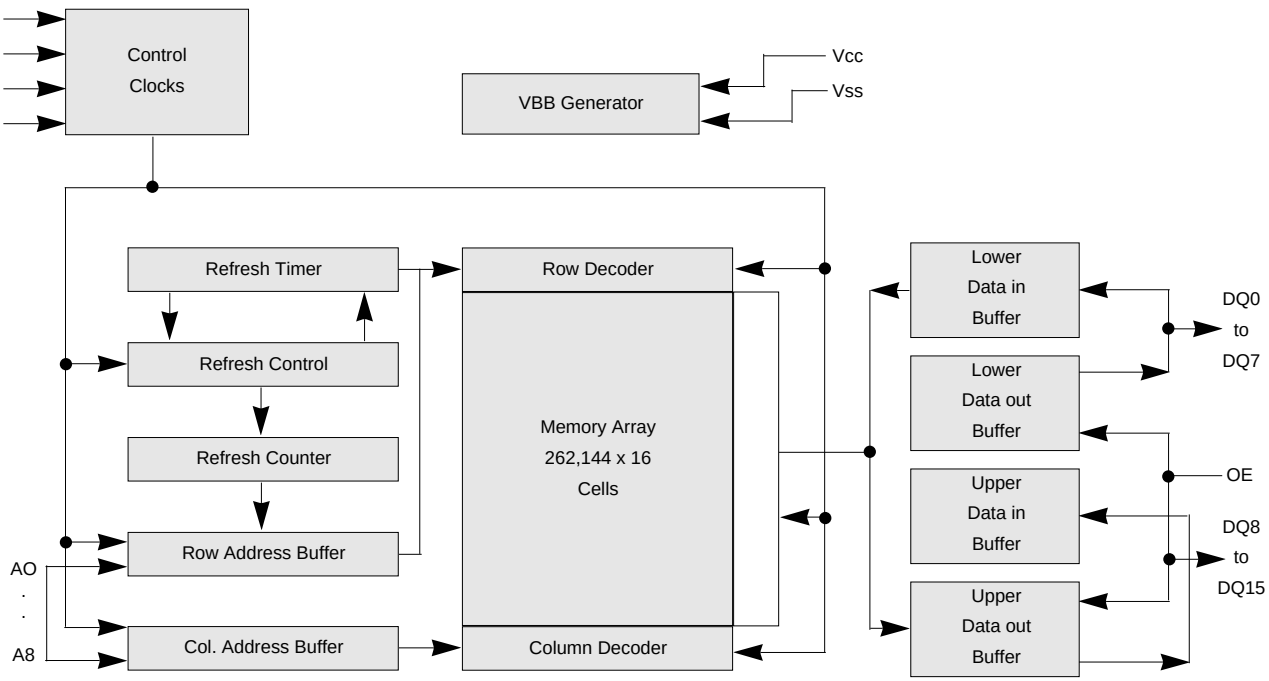
| PIN | NAME | FUNCTION |
|---|---|---|
| 33 | DD6_BI | DRAM data bus |
| 34 | DD8_BI | DRAM data bus |
| 35 | DD7_BI | DRAM data bus |
| 36 | DVSS | Digital GND (0V) |
| 37 | ZLCAS_OUT | DRAM row column address strobe |
| 38 | ZUCAS_OUT | DRAM upper column address strobe |
| 39 | ZWE1_OUT | DRAM write enable 1 (8M ONLY) |
| 40 | ZWE0_OUT | DRAM write enable 0 (4M, 8M, 16M) |
| 41 | ZOE1_OUT | DRAM output enable 1 (16M, -------, 16M) |
| 42 | DVDD | Digital power (+5V) |
| 43 | ZOE0_OUT | DRAM output enable 0 |
| 44 | ZRAS_OUT | DRAM row address strobe |
| 45 | DADR8_OUT | DRAM address bus |
| 46 | DADR7_OUT | DRAM address bus |
| 47 | DVSS | Digital GND (0V) |
| 48 | DADR0_OUT | DRAM address bus |
| 49 | DADR6_OUT | DRAM address bus |
| 50 | DADR1_OUT | DRAM address bus |
| 51 | DADR5_OUT | DRAM address bus |
| 52 | DADR2_OUT | DRAM address bus |
| 53 | DADR4_OUT | DRAM address bus |
| 54 | DADR3_OUT | DRAM address bus |
| 55 | DVSS | Digital GND (0V) |
| 56 | DVSS | Digital GND (0V) |
| 57 | TOS_OUT | Top of sector |
| 58 | DATACK_OUT | Data acknowledge signal output |
| 59 | DVDD | Digital power (+5V) |
| 60 | SDATA0_OUT | DVD data/CD data bitstream output |
| 61 | SDATA1_OUT | DVD data/CD data L/R clock (LRCK) |
| 62 | SDATA2_OUT | DVD data/CD data bit clock (BLCK) |
| 63 | SDATA3_OUT | DVD data/CD data error flag (C2P0) |
| 64 | SDATA4_OUT | DVD data/Sub code serial data (SQDT) |
| 65 | SDATA5_OUT | DVD data/Sub code frame sink (WFSY) |

| PIN | NAME | FUNCTION |
|---|---|---|
| 66 | SDATA6_OUT | DVD data/Sub code block sink (S0S1) |
| 67 | SDATA7_BI | DVD data/Sub code serial clock (SQCK) |
| 68 | DVSS | Digital GND (0V) |
| 69 | CSTROBE_OUT | Data strobe (clock) output |
| 70 | DATREQ_IN | Data request from A/V decoder or ROM decoder |
| 71 | DTER_OUT | DVD data error output |
| 72 | DVSS | Digital GND (0V) |
| 73 | PWM07_OUT | PWM output signal |
| 74 | PWM06_OUT | PWM output signal |
| 75 | PWM05_OUT | PWM output signal |
| 76 | PWM04_OUT | PWM output signal |
| 77 | DVDD | Digital power (+5V) |
| 78 | PWM03_OUT | PWM output signal |
| 79 | PWM02_OUT | PWM output signal |
| 80 | PWM01_OUT | PWM output signal |
| 81 | PWM00_OUT | PWM output signal |
| 82 | DVSS | Digital GND (0V) |
| 83 | DVSS | Digital GND (0V) |
| 84 | DVSS | Digital GND (0V) |
| 85 | DVDD | Digital power (+5V) |
| 86 | DVDD | Digital power (+5V) |
| 87 | DVSS | Digital GND (0V) |
| 88 | DVSS | Digital GND (0V) |
| 89 | DVSS | Digital GND (0V) |
| 90 | DVSS | Digital GND (0V) |
| 91 | FRSYZ_OUT | Frame sync out |
| 92 | TX_OUT | Digital out |
| 93 | GFS_OUT | Good frame sync detection result output ("H" active) |
| 94 | DVSS | Digital GND (0V) |
| 95 | CK33MI_IN | System clock input for 33.8688MHz |
| 96 | CK33MO_OUT | System clock output for 33.8688MHz |
| 97 | DVSS | Digital GND (+5V) |

| PIN | NAME | FUNCTION |
|---|---|---|
| 98 | TEST0_IN | Test mode setting port |
| 99 | TEST1_IN | Test mode setting port |
| 100 | TEST2_IN | Test mode setting port |
| 101 | EFMO_OUT | EFM out |
| 102 | WFCK_OUT | Write frame pulse |
| 103 | RFCK_OUT | Reference frame pulse |
| 104 | PLCK_IN | Phase locked clock |
| 105 | DVSS | Digital GND (0V) |
| 106 | PLLLOCK_OUT | Lock signal for PLL |
| 107 | CLVLOCK_OUT | Lock signal for CLV |
| 108 | SERLOCK_OUT | Lock signal for SERVO |
| 109 | MDP_OUT | Spindle motor phase control signal<br>(3-state) |
| 110 | MDS_OUT | Spindle motor speed control signal<br>(3-state) |
| 111 | DVSS | Digital GND (0V) |
| 112 | DVSS | Digital GND (0V) |
| 113 | MON_OUT | Spindle motor ON/OFF control output |
| 114 | FG_IN | Reference signal for CAV |
| 115 | FSW_OUT | Spindle motor output filter conversion output (3-state) |
| 116 | EFMI_IN | EFM/EFM+ signal input |
| 117 | DVDD | Digital power (+5V) |
| 118 | DVDD | Digital power (+5V) |
| 119 | DVDD | Digital power (+5V) |
| 120 | CK16M_OUT | 2Ì–¡÷ clock of CK33M/16.934MHz |
| 121 | DEMPHA_OUT | When DEEMPHASIS is ON, "HIGH". |
| 122 | BCARZ_IN | BCA input signal |
| 123 | DVSS | Digital GND (0V) |
| 124 | ZRST_IN | Hardware reset active low |
| 125 | ZWAIT_OUT | Micom read/write access wait ("L" wait) |
| 126 | ZIRQZD_OUT | Interrupt request from micom |
| 127 | MRD_IN | Micom read strobe (schmidt trigger) |
| 128 | MWR_IN | Micom write strobe (schmidt trigger) |

## 2-1-5 DIC2 (KM416C254BJ-6 ; CMOS DRAM)

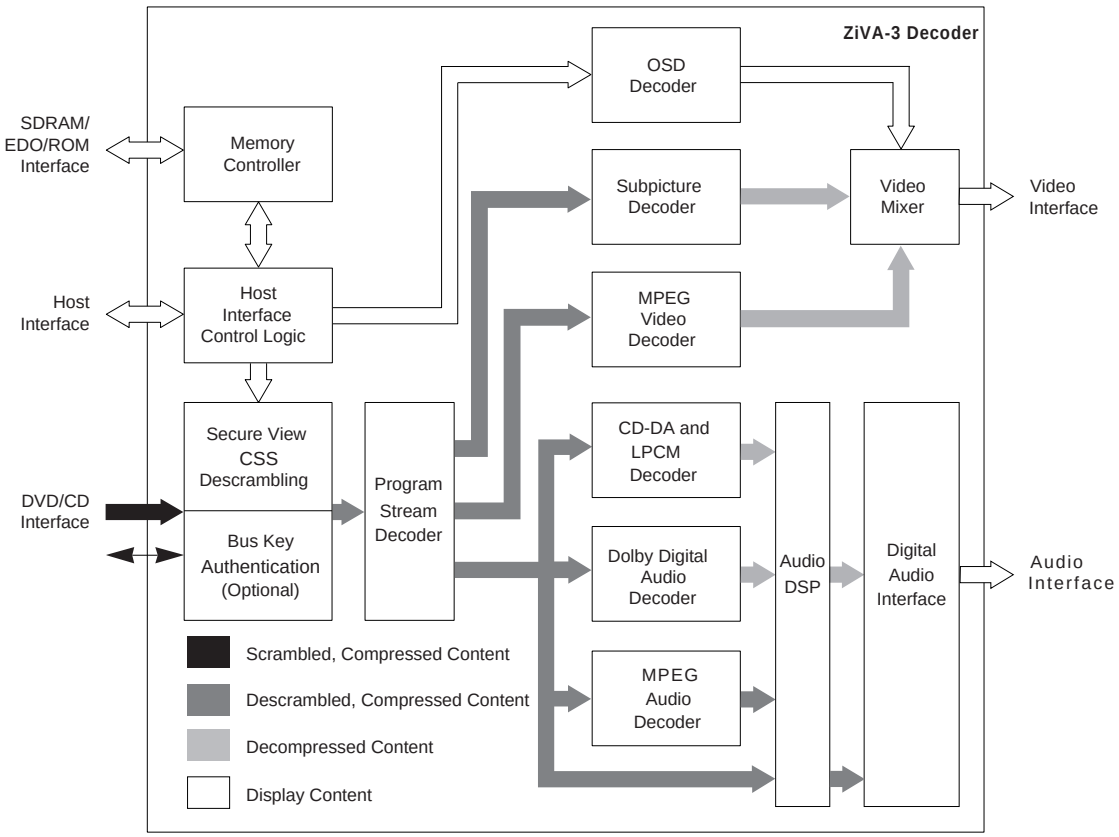
BLOCK DIAGRAM



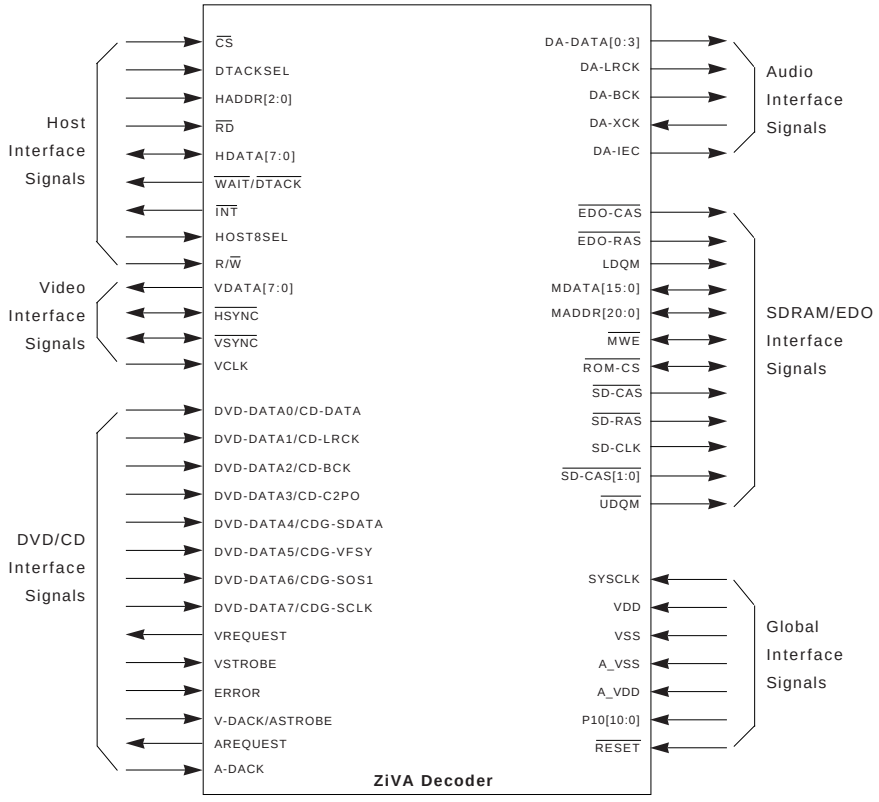

| NAME | FUNCTION |
|---|---|
| A0-A8 | Address Inputs |
| DQ0-15 | Data in/Out |
| VSS | Ground |
| $\overline{RAS}$ | Row Address Strobe |
| $\overline{UCAS}$ | Upper Column Address Strobe |
| $\overline{LCAS}$ | Lower Column Address Strobe |
| $\overline{W}$ | Read/Write Input |
| $\overline{OE}$ | Data Output Enable |
| $V_{cc}$ | Power (+5V) |
| | Power (+3.3V) |
| N.C | No Connection |

## 2-1-6 VIC1 (ZiVA-3 ; Audio/Video Decoder)

BLOCK DIAGRAM

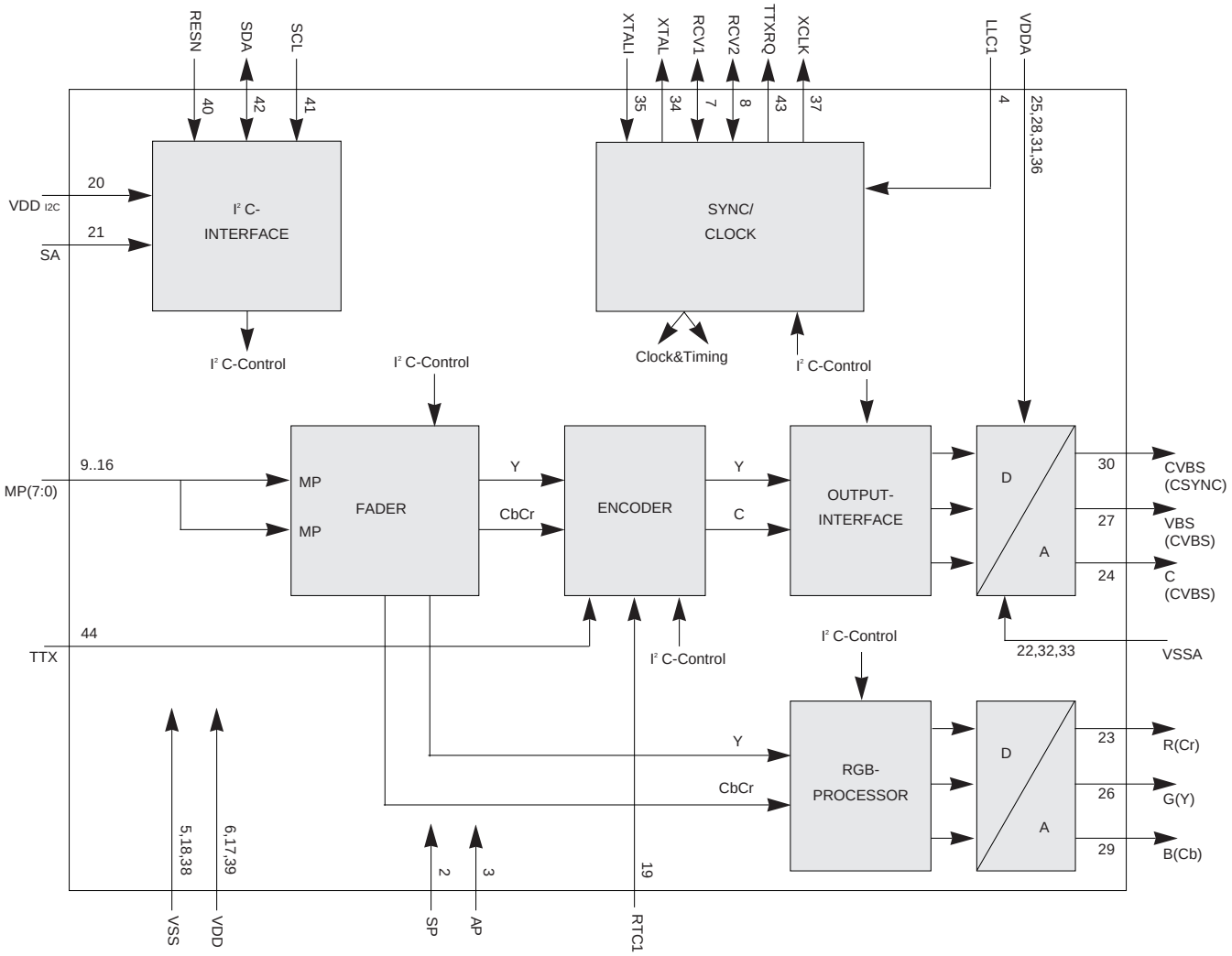



LOGIC DIAGRAM



## 2-1-7 VIC50 (SAA7128 ; Digital Video Encoder)

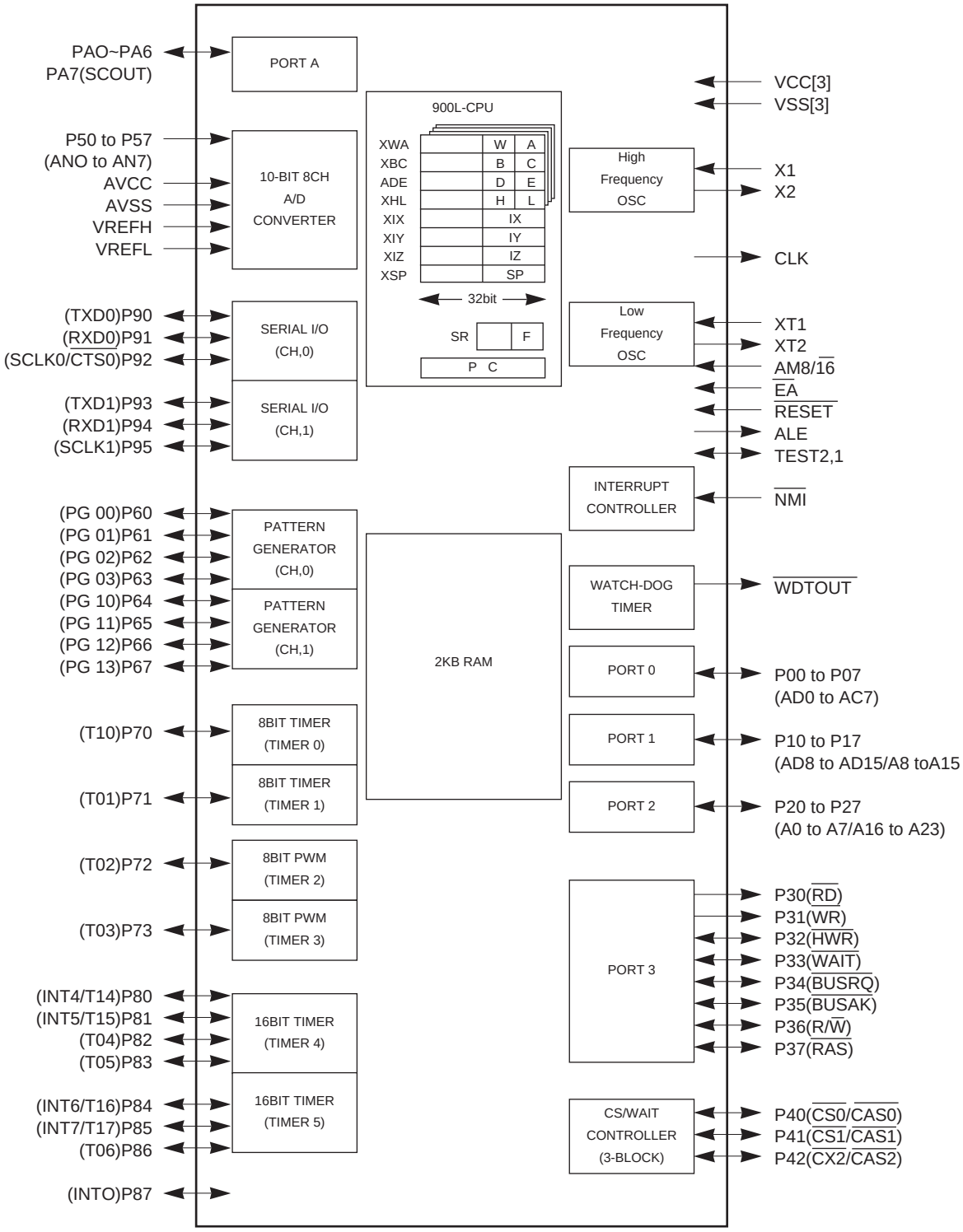
BLOCK DIAGRAM




| PIN | I/O | NAME | FUNCTION |
|---|---|---|---|
| 1 | | res. | Reserved pin, do not connect |
| 2 | I | SP | Test Pin;connected to digital ground for normal operation |
| 3 | I | AP | Test Pin;connected to digital ground for normal operation |
| 4 | I | LLC1 | Line-Locked Clock input;this is the 27 MHz master clock |
| 5 | I | $V_{SS1}$ | Digital supply ground 1 |
| 6 | I | $V_{DD1}$ | Digital supply 1 |
| 7 | I/O | RCV1 | Raster Contral 1 for video port. This pin receives/provides a VS/FS/FSEQ signal. |
| 8 | I/O | RCV2 | Raster Contral 2 for video port. This pin provides an HS pulse of programmable length or receives an HS pulse. |

| PIN | I/O | NAME | FUNCTION |
|---|---|---|---|
| 9 | I | MP7 | Double speed 54 MHzMPEG port. It is an input for "CCIR 656" style multiplexed Cb, Y, Cr data. Data are sampled on the rising and falling clock edge;data sampled on the risting edge then are sent to the encoding part of the device, data sampled on the falling edge are sent to the RGB part of the device. (or vice verse, depending on programming) |
| 10 | I | MP6 | |
| 11 | I | MP5 | |
| 12 | I | MP4 | |
| 13 | I | MP3 | |
| 14 | I | MP2 | |
| 15 | I | MP1 | |
| 16 | I | MP0 | |
| 17 | I | $V_{DD2}$ | Digital supply voltage 2 |
| 18 | I | $V_{SS2}$ | Digital ground 2 |
| 19 | I | RTCI | Real Time Control input. If the LLC1 clock is provided by an SAA7111 or SAA7151B, RTCI should be connected to the RTCO pin of the respective decoder to improve the signal quality. |
| 20 | I | $VDD_{12C}$ | Sense input for 12C bus voltage;connect to 12C bus supply |
| 21 | I | SA | Select 12C address; low selects slave address 88h, high selects slave address 8Ch. |
| 22 | I | $V_{SSA1}$ | Analog ground 1 for Red (Cr), C(CVBS), Green(Y) outputs |
| 23 | O | R(Cr) | Analog output of Red (Cr)signal |
| 24 | O | C | Analog output of Chrominance (CVBS) signal |
| 25 | I | $V_{DDA1}$ | Analog supply voltage 1 for R(Cr), C(CVBS) outputs |
| 26 | O | G(Y) | Analog output of Green(Y) signal |
| 27 | O | VBS | Analog output of VBS (CVBS) signal |
| 28 | I | $V_{DDA2}$ | Analog supply voltage 2 for VBS(CVBS), Green(Y) outputs |
| 29 | O | B(Cb) | Analog output of Blue(Cb) signal |
| 30 | O | CVBS | Analog output of CVBS(CSYNC) signal |
| 31 | I | $V_{DDA3}$ | Analog supply voltage 3 for Blue(Cb)and CVBS(CSYNC), outputs |
| 32 | I | $V_{SSA2}$ | Analog ground 2 for VBS (CVBS), Blue(Cb), CVBS(CSYNC)outputs |
| 33 | I | $V_{SSA3}$ | Analog ground 3 for the DAC reference ladder and the oscillator |
| 34 | O | XTAL | Crystal oscillator output |
| 35 | I | XTAL1 | Crystal oscillator input; if the oscillator is not used, this pin should be connected to ground. |
| 36 | I | $V_{DDA4}$ | Analog supply voltage 4 for the DAC reference ladder and the oscillator |
| 37 | O | XCLK | Clock output of the crystal oscillator |
| 38 | I | $V_{SS3}$ | Digital supply ground 3 |
| 39 | I | $V_{DD3}$ | Digital supply 3 |
| 40 | I | RESN | Reset input, active LOW. After reset is applied, all digital I/Os are in input mode; PAL-Blackburst on CVBS, VBS and C;RGB outputs set to lowest voltage. The 12C-bus receiver waits for the START condition. |
| 41 | I | SCL | 12C serial clock input |
| 42 | I/O | SDA | 12C serial data input/output |
| 43 | O | TTXRQ | Teletext Request output, indicating when text bits are requested |
| 44 | I | TTX | Teletext bit stream input |

## 2-1-8 MIC1 (TMP93CM41F ; Main Micom)



| No | PORT NAME | ASSIGNED NAME | I/O | FUNCTION |
|---|---|---|---|---|
| 1 | VREFL | GND | I | A/D Ref input (L) |
| 2 | AVss | AGND | - | A/D GND input |
| 3 | AVcc | AVCC | - | A/D VCC input |
| 4 | /NMI | - | I | Non-maskable interrupt |
| 5 | P70 | ZRST | O | DSP H/W reset |
| 6 | P71 | MCK_SEL | O | Master clock select |
| 7 | P72 | ZIVA_RST | O | AV-DEC H/W reset |
| 8 | P73 | LED | O | Open/close blinking |
| 9 | /INT4 | DVDINT | I | Interrupt from AV-DEC |
| 10 | INT5 | SRQ | I | Interrupt from front micom |
| 11 | P82 | OPEN | I | Open switch |
| 12 | P83 | CLOSE | I | Close switch |
| 13 | /INT6 | FGINT | I | Interrupt from spindle motor FG |
| 14 | INT7 | - | I | |
| 15 | P86 | RRQ | O | Request to front micom |
| 16 | INTO | ZINT | I | Interrupt from DSP |
| 17 | TXDO | RXD | O | Serial data output |
| 18 | RXDO | TXD | I | Serial data input |
| 19 | SCLKO | SCLK | I | Serial data clock |
| 20 | TXD1 | MD | O | RF control data |
| 21 | 094 | STB | I/O | RF data latch |
| 22 | SCLK1 | MC | O | RF control clock |
| 23 | AM8/16 | AM8 | I | Address mode (H: 8 bit mode) |
| 24 | CLK | CLK | O | Clock output (System clock÷2) |
| 25 | Vcc | VCC | - | |
| 26 | Vss | GND | - | GND |
| 27 | X1 | X1 | I | High frequency OSC in |
| 28 | X2 | X2 | O | High frequency OSC out |
| 29 | /EA | /EA | I | External access CS41/CS40 |
| 30 | /RESET | /MRST | I | Master reset from FRONT |

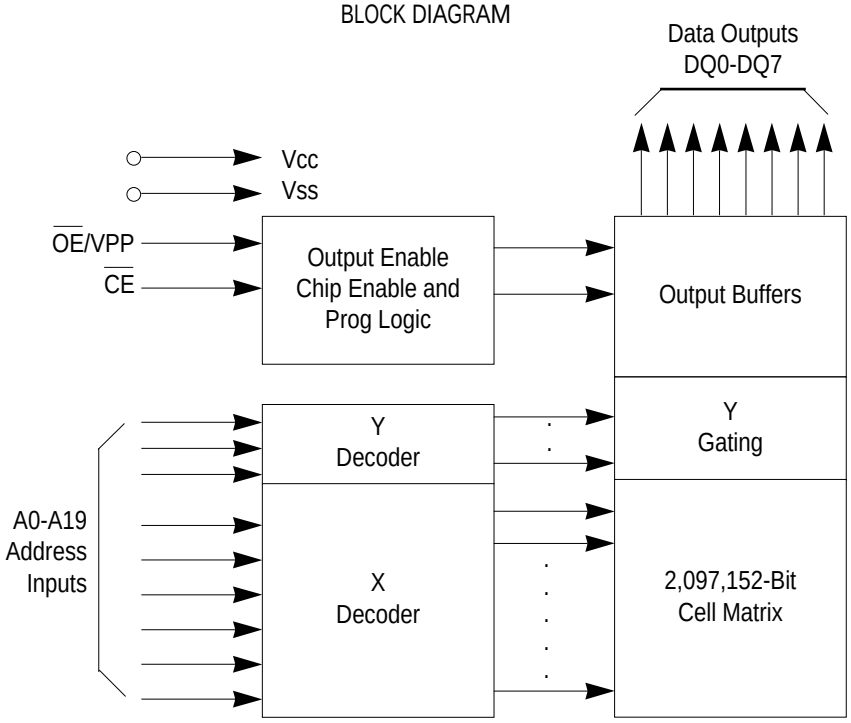
| No | PORT NAME | ASSIGNED NAME | I/O | FUNCTION |
|---|---|---|---|---|
| 31 | P96 | XT1 | O | - |
| 32 | P97 | XT2 | O | - |
| 33 | TEST1 | TEST1 | - | Test pin. connect to TEST2 |
| 34 | TEST2 | TEST2 | - | Test pin. connect to TEST1 |
| 35 | PA0 | ECK | O | EEPROM CLOCK |
| 36 | PA1 | EDT | I/O | EEPROM DATA I/O |
| 37 | PA2 | EWC | O | EEPROM WRITE PROTECT |
| 38 | PA3 | - | O | |
| 39 | PA4 | - | O | |
| 40 | PA5 | - | O | |
| 41 | PA6 | - | O | |
| 42 | PA7 | - | O | |
| 43 | ALE | ALE | O | Address latch enable |
| 44 | Vcc | VCC | - | |
| 45 | AD0 | HAD0 | I/O | Address/Data 0 |
| 46 | AD1 | HAD1 | I/O | Address/Data 1 |
| 47 | AD2 | HAD2 | I/O | Address/Data 2 |
| 48 | AD3 | HAD3 | I/O | Address/Data 3 |
| 49 | AD4 | HAD4 | I/O | Address/Data 4 |
| 50 | AD5 | HAD5 | I/O | Address/Data 5 |
| 51 | AD6 | HAD6 | I/O | Address/Data 6 |
| 52 | AD7 | HAD7 | I/O | Address/Data 7 |
| 53 | A8 | HA8 | O | Address 8 |
| 54 | A9 | HA9 | O | Address 9 |
| 55 | A10 | HA10 | O | Address 10 |
| 56 | A11 | HA11 | O | Address 11 |
| 57 | A12 | HA12 | O | Address 12 |
| 58 | A13 | HA13 | O | Address 13 |
| 59 | A14 | HA14 | O | Address 14 |
| 60 | A15 | HA15 | O | Address 15 |

| No | PORT NAME | ASSIGNED NAME | I/O | FUNCTION |
|---|---|---|---|---|
| 61 | /WDTOUT | WDTOUT | O | Watch dog timer output |
| 62 | VSS | GND | - | |
| 63 | Vcc | VCC | - | |
| 64 | A16 | HA16 | O | Address 16 |
| 65 | A17 | HA17 | O | Address 17 (AV-DECODER) |
| 66 | A18 | HA18 | O | Address 18 (Data processor) |
| 67 | A19 | HA19 | O | Address 19 |
| 68 | A20 | HA20 | O | Address 20 (D. SERVO) |
| 69 | A21 | HA21 | O | Address 21 |
| 70 | A22 | HA22 | O | Address 22 |
| 71 | A23 | HA23 | O | Address 23 |
| 72 | /RD | /RD | O | /Read strobe |
| 73 | /WR | /WR | O | /Write strobe |
| 74 | P32 | - | I/O | |
| 75 | /WAIT | /MWAIT | I | /Wait |
| 76 | P34 | RCODE | I/O | |
| 77 | P35 | - | I/O | |
| 78 | P36 | - | O | |
| 79 | P37 | - | I/O | |
| 80 | P40/CS0 | - | O | |
| 81 | /CS1 | /CS1 | - | Chip select 1<br>(SRAM, 1M Bit, 128KB) |

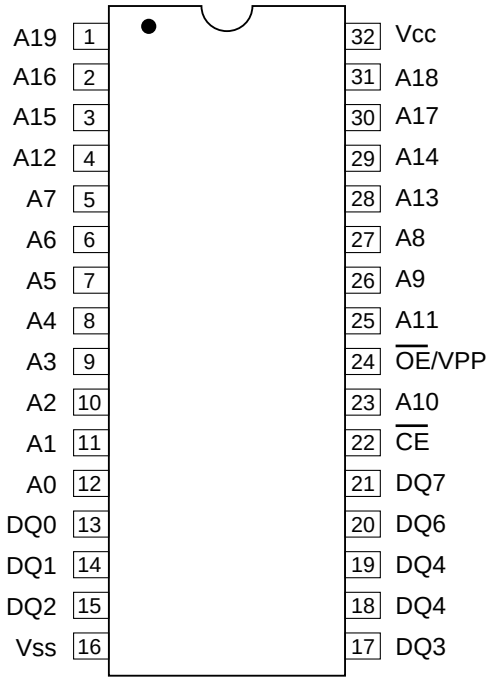
| No | PORT NAME | ASSIGNED NAME | I/O | FUNCTION |
|---|---|---|---|---|
| 82 | /CS2 | /CS2 | O | Chip slect 2<br>(EPROM, 4M Bit, 512KB) |
| 83 | P60 | - | I/O | |
| 84 | P61 | TRAY-IN | O | Tray in control output |
| 85 | P62 | TRAY-OUT | O | Tray out control output |
| 86 | P63 | SCL | O | IIC clock (VIDEO ENCODER) |
| 87 | P64 | SDA | I/O | IIC clock (VIDEO ENCODER) |
| 88 | P65 | DAB | O | D.Servo IC data/Address select |
| 89 | P66 | CSB | O | D.Servo IC chip select |
| 90 | P67 | RSTB | O | D.Servo IC reset |
| 91 | Vss | GND | - | |
| 92 | P50 | SLOCK | | LOCK monitor from DSP |
| 93 | P51 | TILTO | I | Monitor signal |
| 94 | P52 | FR | I | Spindle direction from SP driver |
| 95 | P53 | SENSE | I | SENSE monitor from SERVO |
| 96 | P54 | FOKB | I | Focus lock monitor from RF |
| 97 | P55 | RFRP1 | I | Tracking lock monitor from SERVO |
| 98 | P56 | RFO | I | RF sum signal |
| 99 | P57 | VREFO | I | |
| 100 | VREFH | AVCC | I | A/D Ref input (H) |

## 2-1-9 MIC8 (M27C801 ; 8MB (1M x 8-bit) CMOS EPROM)

BLOCK DIAGRAM




TOP VIEW




| NAME | FUNCTION |
|---|---|
| A0-A19 | Address Inputs |
| $\overline{CE}$ | Chip Enable Input |
| DQ0-DQ7 | Data Input/Outputs |
| $\overline{OE}$ | Output Enable Input |
| Vcc | Vcc Syply Voltage |
| Vss | Ground |

## 2-1-10 FIC2 (LC866232 ; Front Micom)

| No | PORT NAME | ASSIGNED NAME | I/O | FUNCTION |
|---|---|---|---|---|
| 1 | P52 | MRST | O | Front end reset |
| 2 | PWM1 | - | - | |
| 3 | P20 | DFS | O | D/A Control |
| 4 | P21 | DEMOO | O | D/A Control |
| 5 | P22 | DEMO1 | O | D/A Control |
| 6 | P23 | DARST | O | D/A Control |
| 7 | P24 | DIF0 | O | D/A Control |
| 8 | P25 | DIF1 | O | D/A Control |
| 9 | P26 | DIF2 | O | D/A Control |
| 10 | P27 | DARST1 | O | D/A Control |
| 11 | TEST1 | - | - | |
| 12 | *RES | | I | Reset |
| 13 | XT1 | GND | | Low frequency OSC in |
| 14 | XT2 | - | | Low frequency OSC out |
| 15 | VSS | GND | | |
| 16 | CF1 | - | | High frequency OSC in |
| 17 | CF2 | - | | High frequency OSC out |
| 18 | VDD | VDD | | |
| 19 | AN0/P80 | ECHO_VR | I | ECHO volume A/D input |
| 20 | AN1/P81 | MIC_DET | I | MIC detect |
| 21 | AN2/P82 | - | I | |
| 22 | AN3/P83 | MODE0 | I | HARDWARE MODE SELECT |
| 23 | AN4/P84 | MODE1 | I | HARDWARE MODE SELECT |
| 24 | AN5/P85 | MODE2 | I | HARDWARE MODE SELECT |
| 25 | AN6/P86 | MODE3 | I | HARDWARE MODE SELECT |
| 26 | AN7/P87 | MODE4 | I | HARDWARE MODE SELECT |
| 27 | P70/INT0 | RRQ | I | Request to front micom |
| 28 | P71/INT1 | - | I | |
| 29 | P72/INT2 | - | I | |
| 30 | P73/INT3 | REMOCON | I | REMOCON data in |

| No | PORT NAME | ASSIGNED NAME | I/O | FUNCTION |
|---|---|---|---|---|
| 31 | S0/T0 | GRID8 | O | FLT GRID CONTROL |
| 32 | S1/T1 | GRID7 | O | FLT GRID CONTROL |
| 33 | S2/T2 | GRID6 | O | FLT GRID CONTROL |
| 34 | S3/T3 | GRID5 | O | FLT GRID CONTROL |
| 35 | S4/T4 | GRID4 | O | FLT GRID CONTROL |
| 36 | S5/T5 | GRID3 | O | FLT GRID CONTROL |
| 37 | S6/T6 | GRID2 | O | FLT GRID CONTROL |
| 38 | S7/T7 | GRID1 | O | FLT GRID CONTROL |
| 39 | S8/T8 | - | O | |
| 40 | S9/T9 | - | O | |
| 41 | S10/T10 | - | O | |
| 42 | S11/T11 | SEG21 | O | FLT SEGMENT CONTROL |
| 43 | S12/T12 | SEG20 | O | FLT SEGMENT CONTROL |
| 44 | S13/T13 | SEG19 | O | FLT SEGMENT CONTROL |
| 45 | S14/T14 | SEG18 | O | FLT SEGMENT CONTROL |
| 46 | S15/T15 | SEG17 | O | FLT SEGMENT CONTROL |
| 47 | VDD | +5V | - | |
| 48 | VP | -28V | - | |
| 49 | S16 | SEG16 | O | FLT SEGMENT CONTROL |
| 50 | S17 | SEG15 | O | FLT SEGMENT CONTROL |
| 51 | S18 | SEG14 | O | FLT SEGMENT CONTROL |
| 52 | S19 | SEG13 | O | FLT SEGMENT CONTROL |
| 53 | S20 | SEG12 | O | FLT SEGMENT CONTROL |
| 54 | S21 | SEG11 | O | FLT SEGMENT CONTROL |
| 55 | S22 | SEG10 | O | FLT SEGMENT CONTROL |
| 56 | S23 | SEG9 | O | FLT SEGMENT CONTROL |
| 57 | S24 | SEG8 | O | FLT SEGMENT CONTROL |
| 58 | S25 | SEG7 | O | FLT SEGMENT CONTROL |
| 59 | S26 | SEG6 | O | FLT SEGMENT CONTROL |
| 60 | S27 | SEG5 | O | FLT SEGMENT CONTROL |

| No | PORT NAME | ASSIGNED NAME | I/O | FUNCTION |
|---|---|---|---|---|
| 61 | S28 | SEG4 | O | FLT SEGMENT CONTROL |
| 62 | S29 | SEG3 | O | FLT SEGMENT CONTROL |
| 63 | S30 | SEG2 | O | FLT SEGMENT CONTROL |
| 64 | S31 | SEG1 | O | FLT SEGMENT CONTROL |
| 65 | P00 | KEY0 | I | KEY SCAN |
| 66 | P01 | KEY1 | I | KEY SCAN |
| 67 | P02 | KEY2 | I | KEY SCAN |
| 68 | P03 | GND | I | |
| 69 | P04 | - | O | |
| 70 | P05 | - | O | |
| 71 | P06 | - | O | |
| 72 | P07 | SRQ | O | Request to MAIN Micom |
| 73 | P10/SO0 | TXD | O | SERIAL DATA OUT |
| 74 | P11/SI0 | RXD | I | SERIAL DATA IN |
| 75 | P12/SCK0 | SCLK | O | SERIAL CLOCK |
| 76 | P13/SO1 | - | | |
| 77 | P14/SI1 | - | | |
| 78 | P15/SCK1 | - | | |
| 79 | P16/BUZ | - | | |
| 80 | P17/PWM0 | | | |

| No | PORT NAME | ASSIGNED NAME | I/O | FUNCTION |
|---|---|---|---|---|
| 81 | P30 | S1 | I | SHUTTLE DATA |
| 82 | P31 | S2 | I | SHUTTLE DATA |
| 83 | P32 | S3 | I | SHUTTLE DATA |
| 84 | P33 | S4 | I | SHUTTLE DATA |
| 85 | P34 | J1 | I | JOG DATA |
| 86 | P35 | J2 | I | JOG DATA |
| 87 | P36 | AT | I | TV TYPE |
| 88 | P37 | AD | I | TV TYPE |
| 89 | VSS | +5 V | - | |
| 90 | VDD | GND | - | |
| 91 | P40 | RGBCTL | O | SCART CONTROL |
| 92 | P41 | SCON_B | O | SCART CONTROL |
| 93 | P42 | - | O | |
| 94 | P43 | WIDE | O | SCART CONTROL |
| 95 | P44 | AMUTE3 | O | SUB WOOPER MUTE |
| 96 | P45 | AMUTE2 | O | CENTER MUTE |
| 97 | P46 | AMUTE1 | O | REAR MUTE |
| 98 | P47 | AMUTE0 | O | FRONT MUTE |
| 99 | P50 | LED | O | STANDBY LED |
| 100 | P51 | ON/OFF | O | POWER ON/OFF CONTROL |

# MEMO

# 3. Product Specifications

**NTSC**

| | | |
|---|---|---|
| **GENERAL** | Power Requirements | AC 120V, 60Hz |
| | Power Consumption | DVD-909 ; 19W, DVD-709 ; 17W |
| | Weight | 7.5lbs |
| | Dimensions | W 16.9 in X D 11.0 in X H 3.5 in |
| | Operating Temperature Range | +41°F ~ +95°F |
| | Operating Humidity Range | 10% to 75% |
| **DISC** | DVD<br>(Digital Versatile Disc) | Reading Speed : 11.45 ft/sec. |
| | | Approx. Play Time (Single Sided, Single Layer Disc) : 135 min. |
| | CD : 5 inches<br>(Compact Disc) | Reading Speed : 3.9 to 4.6 ft/sec. |
| | | Maximum Play Time : 74min. |
| | CD : 3 1/2 inches<br>(Compact Disc) | Reading Speed : 3.9 to 4.6 ft/sec. |
| | | Maximum Play Time : 20min. |
| | VCD : 5 inches | Reading Speed : 3.9 to 4.6 ft/sec. |
| | | Maximum Play Time : 74min. (Video + Audio) |
| **Video Output** | Composite Video | DVD-909 ; 2 channel : 1.0Vp-p (75ohm load) DVD-709 ; 1 channel : 1.0Vp-p (75ohm load) |
| | RCA-Jack | Y : 1.0Vp-p (75ohm load) ; <DVD-909 Only> |
| | | Pr : 0.70Vp-p (75ohm load) ; <DVD-909 Only> |
| | | Pb : 0.70Vp-p (75ohm load) ; <DVD-909 Only> |
| | S-Video | Luminance Signal : 1Vp-p (75ohm load) |
| | | Color Signal : 0.286Vp-p (75ohm load) |
| **Audio Output** | Mixed Audio Out | DVD-709 : L, R |
| | | DVD-909 : L1/L2, R1/R2 |
| | Analog Audio Out | F/L, F/R, R/L, R/R, C/T, S/W ; DVD-909 Only |
| | Output Level | Analog : 2Vrms (1KHz, odBFS) |
| | | Digital : DVD-709 ; 500mVp-p (Coaxial) |
| | | DVD-909 ; 500mVp-p (Coaxial), 1.15Vp-p (Optical) |
| | * Frequency Response | 48KHz Sampling : 4Hz to 22 KHz |
| | | 96KHz Sampling : 4Hz to 44KHz |
| | * S/N Ratio | 110dB |
| | * Dynamic Range | 96dB |
| | * Total Harmonic Distortion | 0.003% |

* : Nominal specification

**PAL**

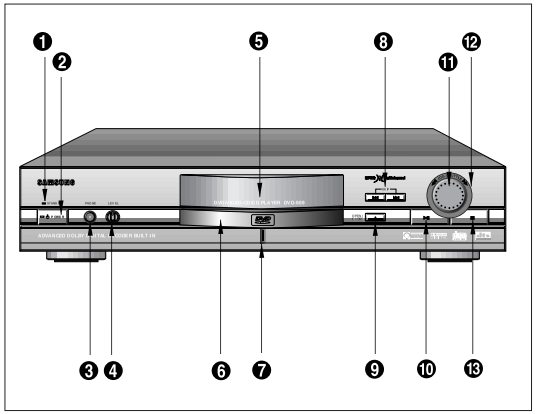
| | | |
|---|---|---|
| **GENERAL** | Power Requirements | AC 110V ~ 240V, 50/60Hz |
| | Power Consumption | DVD-909 ; 19W, DVD-709 ; 17W |
| | Weight | 3.4Kg |
| | Dimensions | W 430mm X D 280mm X H 89mm |
| | Operating Temperature Range | +5°C ~ 35°C |
| | Operating Humidity Range | 10% ~ 75% |
| **DISC** | DVD (Digital Versatile Disc) | Reading Speed : 3.49m/sec. |
| | | Approx. Play Time (Single Sided, Single Layer Disc) : 135 min. |
| | CD : 12cm (Compact Disc) | Reading Speed : 1.2 to 1.4m/sec. |
| | | Maximum Play Time : 74min. |
| | CD : 8cm (Compact Disc) | Reading Speed : 1.2 to 1.4m/sec. |
| | | Maximum Play Time : 20min. |
| | VCD : 12cm | Reading Speed : 1.2 to 1.4m/sec. |
| | | Maximum Play Time : 74min. (Video + Audio) |
| **Video Output** | Scart Jack (Option) | R (Red) : 0.714Vp-p (75ohm load) |
| | | G (Green) : 0.714Vp-p (75ohm load) |
| | | B (Blue) : 0.714Vp-p (75ohm load) |
| | | Composite Video : 1.0Vp-p (75ohm load) |
| | Component Video RCA-Jack (Option) | Composite Video - DVD-909 ; 2 channel : 1.0Vp-p (75ohm load) DVD-709 ; 1 channel : 1.0Vp-p (75ohm load) |
| | | Y : 1.0Vp-p (75ohm load) ; <DVD-909 Only> |
| | | Pr : 0.70Vp-p (75ohm load) ; <DVD-909 Only> |
| | | Pb : 0.70Vp-p (75ohm load) ; <DVD-909 Only> |
| | RCA-Jack | Component Video Channel : 1.0Vp-p (75ohm load) ; <DVD-709 Only> |
| | | 2 Channel : 1.0Vp-p (75ohm load) ; <DVD-909 Only> |
| | S-Video | Luminance Signal : 1Vp-p (75ohm load) |
| | | Color Signal : 0.286Vp-p (75ohm load) |
| **Audio Output** | Scart Jack | 2 Channel : L, R |
| | RCA-Jack | 2 Channel : L (1/L), R (2/R) |
| | | 5.1 Channel : F/L, L/R, R/L, R/R, C/T, S/W - (DVD-909 Only) |
| | Output Level | Analog : 2Vrms (1KHz, 0dBFS) |
| | | Digital : DVD-709 ; 500mVp-p (Coxial) |
| | | DVD-909 ; 500mVp-p (Coxial), 1.15Vp-p (Optical) |
| | * Frequemvy Response | 48KHz Sampling : 4Hz to 22KHz |
| | | 96KHz Sampling : 4Hz to 44KHz |
| | * S/N Ratio | 110dB |
| | * Dynamic Range | 96dB |
| | * Total Harmonic Distortion | 0.003% |

* : Nominal specification

# 4. Operating Instructions

## 4-1 NTSC (DVD-909/709)

## Description-Front Panel DVD-909



### Front Panel Controls

❶ **STANDBY LAMP**
- When the unit is first plugged in, the indicator lights. When power is pressed on, the lamp goes out.

❷ **POWER**
- Use to turn the power on and off.

❸ **HEADPHONES JACK**
- You can attach headphones here for private listening.

❹ **HEADPHONES VOLUME**
- Use to adjust headphones volume level.

❺ **DISPLAY** (See below)
- Operation indicators are displayed here.

❻ **DISC TRAY**
- Press OPEN/CLOSE to open and close the disc tray.

❼ **GREEN LAMP**

❽ **SKIP/SEARCH**
- Use to skip or search a scene or music.

❾ **OPEN/CLOSE**
- Press to open and close the disc tray.

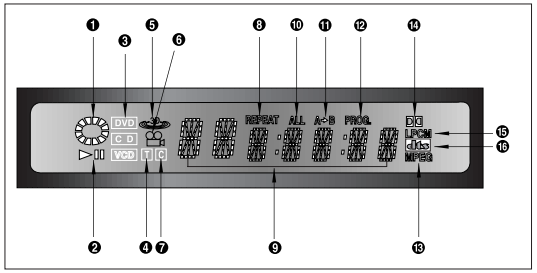
❿ **PLAY/PAUSE**
- Begin or pause disc play.

⓫ **JOG DIAL**
- Operates frame by frame playback. In CD mode, performs track search.

⓬ **SHUTTLE DIAL**
- Performs fast or slow motion playback.

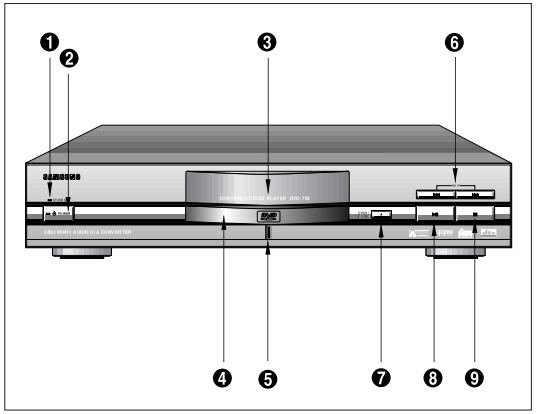
⓭ **STOP**
- Stops disc play.

### Front Display




❶ DISC OPERATION ROTARY INDICATOR
❷ OPERATION INDICATOR
❸ DISC TYPE INDICATOR
❹ TRACK INDICATOR
❺ 3D SOUND INDICATOR
❻ ANGLE INDICATOR
❼ CHAPTER INDICATOR
❽ REPEAT INDICATOR
❾ CHAPTER, TITLE, TRACK & MESSAGE INDICATOR
❿ ALL REPEAT INDICATOR
⓫ A-B REPEAT INDICATOR
⓬ PROGRAM PLAY INDICATOR
⓭ MPEG INDICATOR
⓮ DOLBY DIGITAL INDICATOR
⓯ LINEAR PCM INDICATOR
⓰ DTS INDICATOR

## Description-Front Panel DVD-709



### Front Panel Controls

❶ **STANDBY LAMP**
- When the unit is first plugged in, the indicator lights. When power is pressed on, the lamp goes out.

❷ **POWER**
- Use to turn the power on and off.

❸ **DISPLAY** (See below)
- Operation indicators are displayed here.

❹ **DISC TRAY**
- Press OPEN/CLOSE to open and close the disc tray.

❺ **GREEN LAMP**

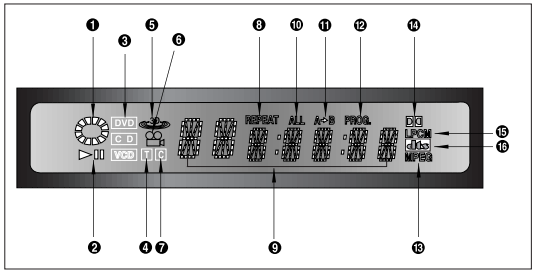
❻ **SKIP/SEARCH**
- Use to skip or search a scene or music.

❼ **OPEN/CLOSE**
- Press to open and close the disc tray.

❽ **PLAY/PAUSE**
- Begin or pause disc play.

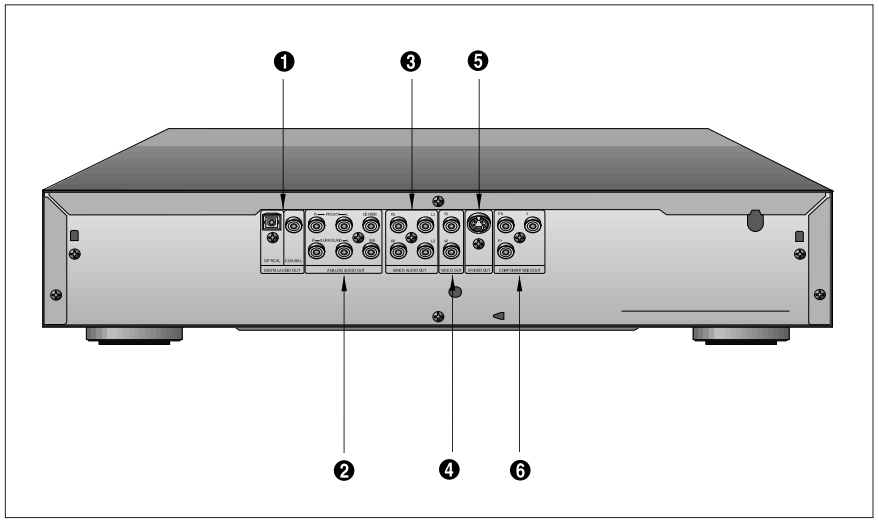
❾ **STOP**
- Stops disc play.

### Front Display




❶ DISC OPERATION ROTARY INDICATOR
❷ OPERATION INDICATOR
❸ DISC TYPE INDICATOR
❹ TRACK INDICATOR
❺ 3D SOUND INDICATOR
❻ ANGLE INDICATOR
❼ CHAPTER INDICATOR
❽ REPEAT INDICATOR
❾ CHAPTER, TITLE, TRACK & MESSAGE INDICATOR
❿ ALL REPEAT INDICATOR
⓫ A-B REPEAT INDICATOR
⓬ PROGRAM PLAY INDICATOR
⓭ MPEG INDICATOR
⓮ DOLBY DIGITAL INDICATOR
⓯ LINEAR PCM INDICATOR
⓰ DTS INDICATOR

# Description-Rear Panel DVD-909




## Rear Panel

❶ DIGITAL AUDIO OUT JACK
- Use either an optical or coaxial digital cable to connect to a compatible Dolby Digital receiver. Use to connect to an A/V Amplifier that contains the Dolby Digital decoder or DTS decoder.

❷ 5.1CH ANALOG AUDIO OUT JACKS
- Connect to an amplifier with 5.1ch analog input jacks.

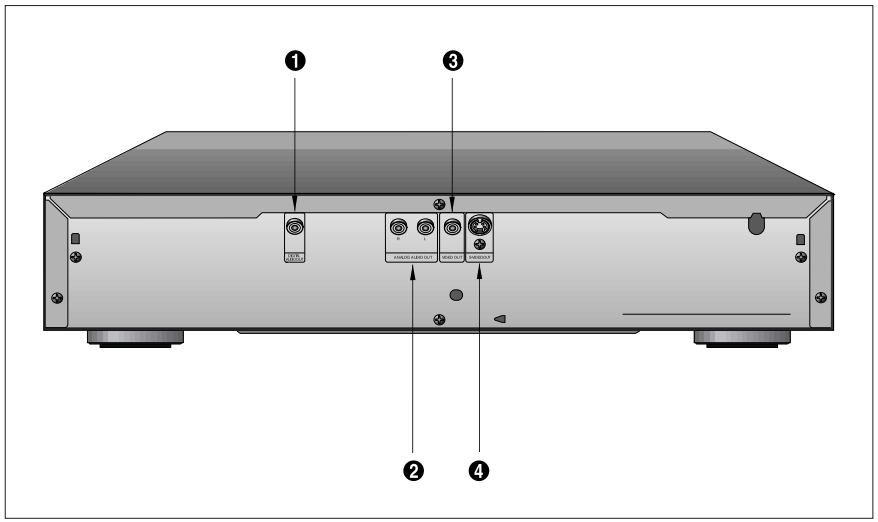
❸ MIXED AUDIO OUT JACKS
- Connect to the Audio input jacks of your television, audio/video receiver, or VCR.

❹ VIDEO OUT JACKS
- Use a video cable to connect one of these jacks to the Video input on your television.

❺ S-VIDEO OUT JACK
- Use the S-Video cable to connect this jack to the S-Video jack on your television for a higher quality picture.

❻ COMPONENT VIDEO OUT JACKS
- Use these jacks if you have a TV with component video in jacks. These jacks provide Pr, Pb and Y video. Along with S-Video, Component Video provides the best picture quality.

# Description-Rear Panel DVD-709




## Rear Panel

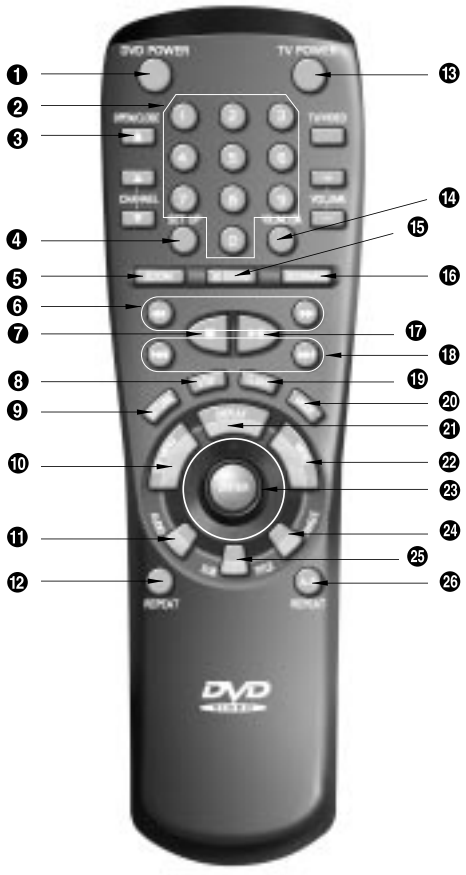
❶ DIGITAL AUDIO OUT JACK
- Use a coaxial digital cable to connect to an A/V Amplifier that contains a Dolby Digital decoder or DTS decoder.

❷ ANALOG AUDIO OUT JACKS
- Connect to the Audio input jacks of your television, audio/video receiver, or VCR.

❸ VIDEO OUT JACK
- Use a video cable to connect this jack to the Video input on your television.

❹ S-VIDEO OUT JACK
- Use the S-Video cable to connect this jack to the S-Video jack on your television for a higher quality picture.

# A Tour of the Remote Control



## DVD Function Buttons

❶ **DVD POWER Button**
❷ **NUMBER Buttons**
❸ **OPEN/CLOSE Button**
❹ **SETUP Button**
• Brings up the DVD player's Setup menu.
❺ **ZOOM Button**
❻ **SEARCH Buttons**
• Allows you to search forward/backward through a disc.
❼ **STOP Button**
❽ **STEP Button**
• Advances playback one frame at a time.
❾ **RETURN Button**
• Returns to a previous menu.
❿ **TOP MENU Button**
• Accesses a music or video display directly.
⓫ **AUDIO Button**
• Use this button to access various audio functions on a disc.
⓬ **REPEAT Button**
• Allows you to repeat play a title, chapter, track, or disc.
⓭ **TV POWER Button**
• Use to set the remote to control a compatible TV.
⓮ **VOLUME CON. Button**
• To control the master volume of the player.
⓯ **3D SOUND Button**
⓰ **BOOKMARK Button**
⓱ **PLAY/PAUSE Button**
• Begin/Pause disc play.
⓲ **SKIP Buttons**
• Use to skip the title, chapter, or track.
⓳ **CLEAR Button**
• Use to remove menus or status displays from the screen.
⓴ **MODE Button**
• Allows you to program a specific order.
㉑ **DISPLAY Button**
• Displays the current disc mode.
㉒ **MENU Button**
• Brings up the Disc menu.
㉓ **ENTER/DIRECTION Button (UP/DOWN or LEFT/RIGHT Button)**
• This button functions as a toggle switch.
㉔ **ANGLE Button**
• Use to access various camera angles on a DVD.
㉕ **SUBTITLE Button**
㉖ **A-B REPEAT Button**
• Use to mark a segment to repeat between A and B.

# A Tour of the Remote Control (Cont'd)

## TV Function Buttons

❶ **TV POWER Button**
❷ **TV/VIDEO Selection Button**
❸ **CHANNEL UP/DOWN Buttons**
❹ **VOLUME UP/DOWN Buttons**

### Install Batteries in the Remote

1. Open the battery cover on the back of the remote.
2. Insert two AA batteries. Make sure that the polarities (+ and -) are aligned correctly.
3. Replace the battery cover.

### If remote doesn't operate properly:

- Check the polarity + - of the batteries (Dry-Cell)
- Check if the batteries are drained.
- Check if remote sensor is blocked by obstacles.
- Check if there is any fluorescent lighting nearby.

### To Connect Headphones (not included) (DVD-909 only)

Connect headphones with a standard stereo plug to the headphone jack (M6).

• Before connecting, set headphone volume at minimum. Then adjust to a suitable volume.

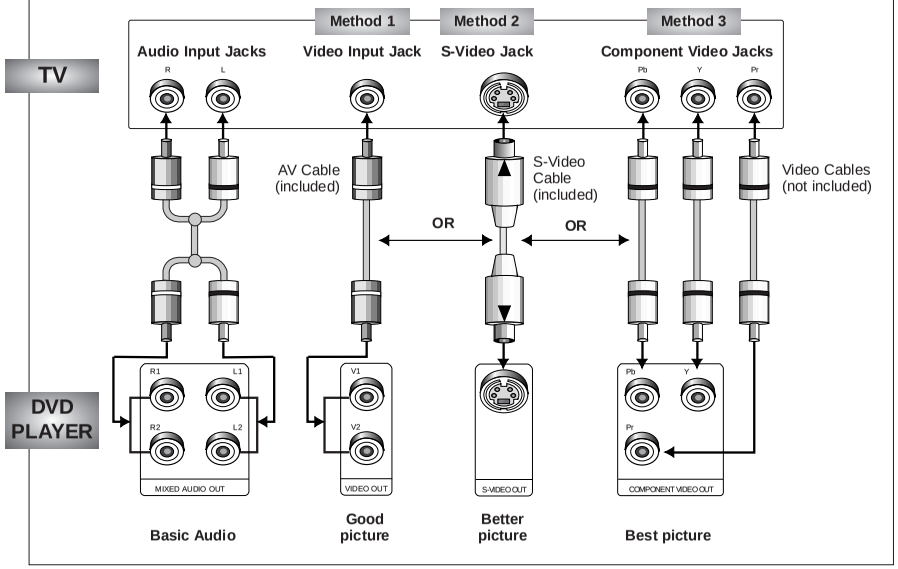
**NOTE** This ⊘ icon indicates an invalid button press.

# Choosing a Connection DVD-909

The following show examples of connections commonly used to connect the DVD player with a TV and other components.

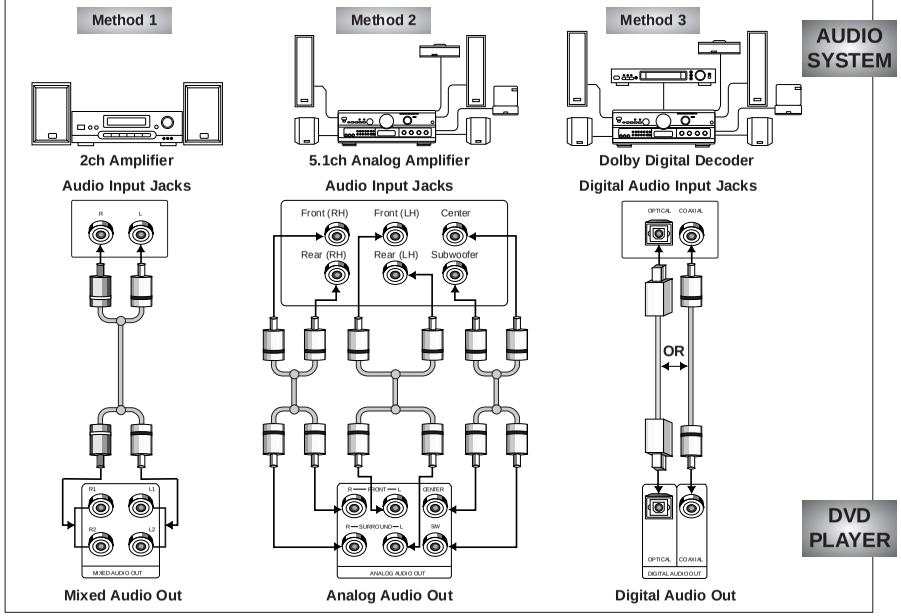
| Before Connecting the DVD Player | Connecting to a TV (For Video) |
|---|---|
| • Always turn off the DVD player, TV, and other components before you connect or disconnect any cables.<br>• Refer to owner's manual of the components you are connecting for more information on those particular components. | • **Method 1**<br>DVD Player + TV with Video Input Jack<br>• **Method 2**<br>DVD Player + TV with S-Video Input Jack<br>• **Method 3**<br>DVD Player + TV with Component Video Jacks |

## Connecting to a TV

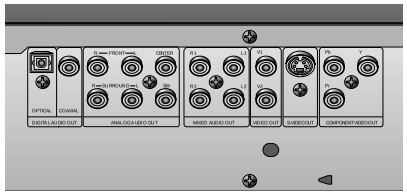



# Choosing a Connection (Cont'd)

## Connecting to an Audio System




## Rear Panel



## Connecting to an Audio System

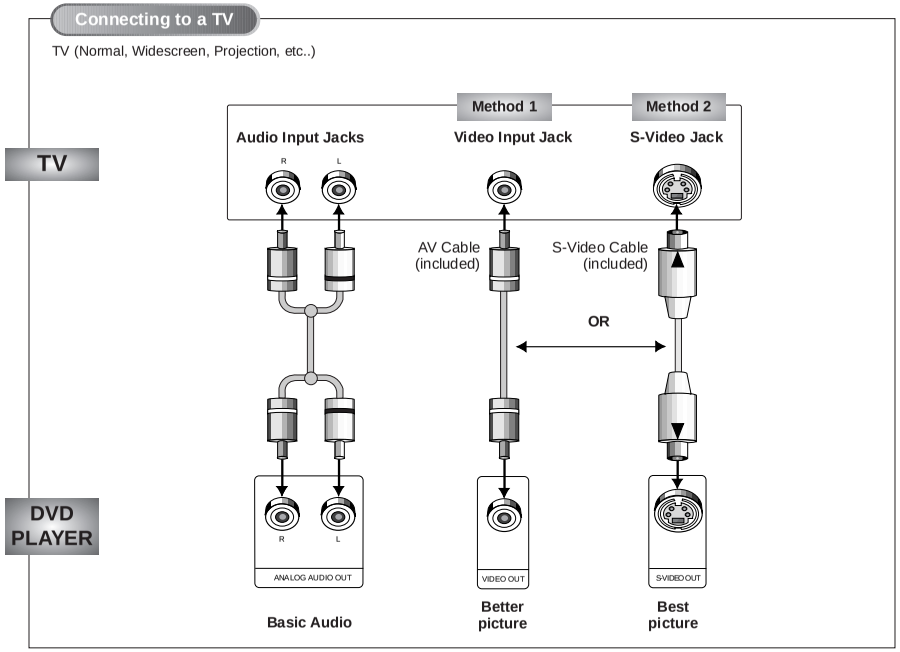
- **Method 1**
  DVD Player + 2ch Stereo Amplifier or Dolby Pro Logic Decoder
- **Method 2**
  DVD Player + Amplifier with 5.1ch Analog Input Jacks
- **Method 3**
  DVD Player + Amplifier with Dolby Digital Decoder/DTS Decoder

# Choosing a Connection DVD-709

The following show examples of connections commonly used to connect the DVD player with a TV and other components.

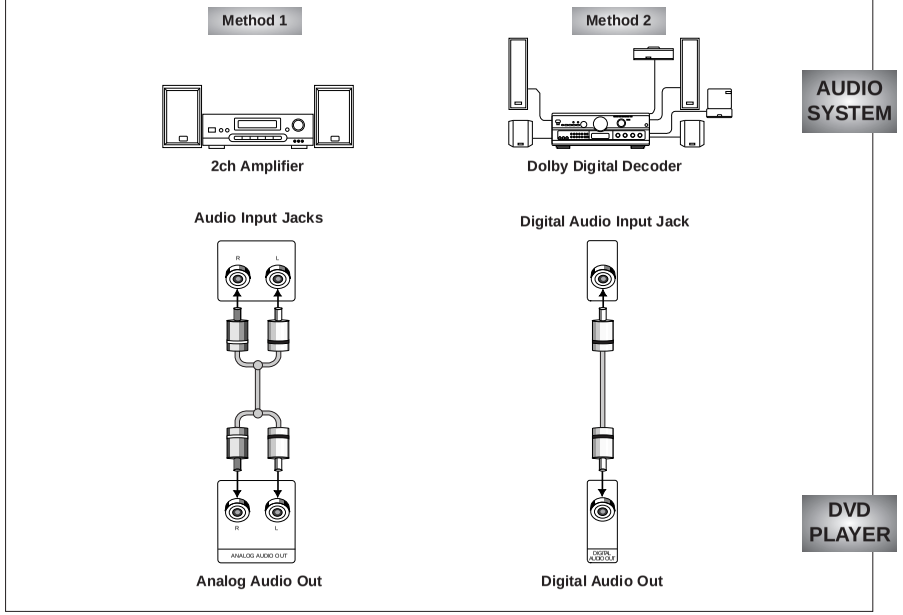
| Before Connecting the DVD Player | Connecting to a TV (For Video) |
|---|---|
| • Always turn off the DVD player, TV, and other components before you connect or disconnect any cables.<br>• Refer to owner's manual of the additional components you are connecting for more information for those particular components. | • **Method 1**<br>DVD Player + TV with Video Input Jack<br>• **Method 2**<br>DVD Player + TV with S-Video Input Jack |

## Connecting to a TV

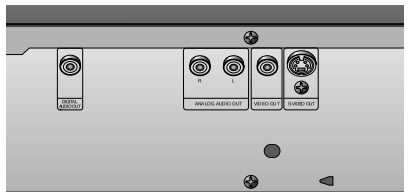



# Choosing a Connection (Cont'd)

## Connecting to an Audio System

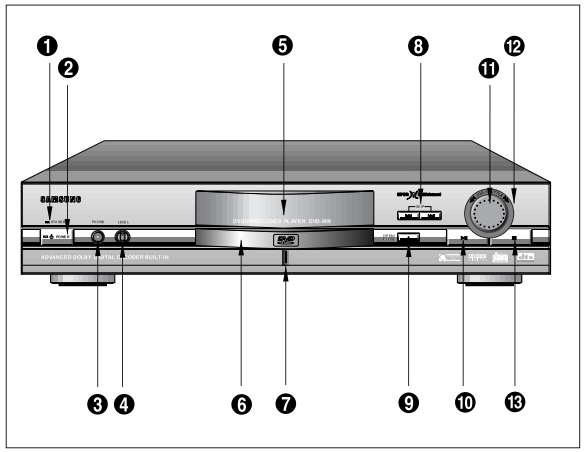



## Rear Panel




| Connecting to an Audio System |
|---|
| • **Method 1**<br>DVD Player + 2ch Stereo Amplifier or Dolby Pro Logic Decoder<br>• **Method 2**<br>DVD Player + Amplifier with Dolby Digital Decoder/DTS Decoder |

## Description-Front Panel DVD-909



### Front Panel Controls

❶ **STANDBY LAMP**
- When the unit is first plugged in, the indicator lights. When power is pressed on, the lamp goes out.

❷ **POWER**
- Use to turn the power on and off.

❸ **HEADPHONES JACK**
- You can attach headphones here for private listening.

❹ **HEADPHONES VOLUME**
- Use to adjust headphones volume level.

❺ **DISPLAY** (See below)
- Operation indicators are displayed here.

❻ **DISC TRAY**
- Press OPEN/CLOSE to open and close the disc tray.

❼ **GREEN LAMP**

❽ **SKIP/SEARCH**
- Use to skip or search a scene or music.

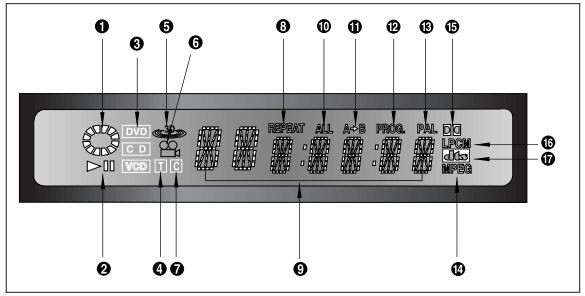
❾ **OPEN/CLOSE**
- Press to open and close the disc tray.

❿ **PLAY/PAUSE**
- Begin or pause disc play.

⓫ **JOG DIAL**
- Operates frame by frame playback. In CD mode, performs track search.

⓬ **SHUTTLE DIAL**
- Performs fast or slow motion playback.

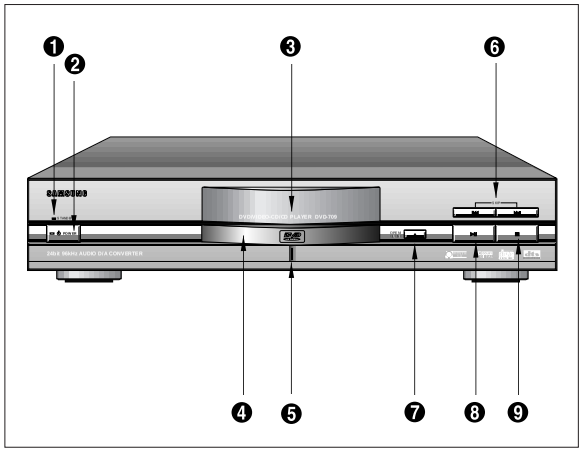
⓭ **STOP**
- Stops disc play.



### Front Display

❶ DISC OPERATION ROTARY INDICATOR
❷ OPERATION INDICATOR
❸ DISC TYPE INDICATOR
❹ TRACK INDICATOR
❺ 3D SOUND INDICATOR
❻ ANGLE INDICATOR
❼ CHAPTER INDICATOR
❽ REPEAT INDICATOR
❾ CHAPTER, TITLE, TRACK & MESSAGE INDICATOR
❿ ALL REPEAT INDICATOR
⓫ A-B REPEAT INDICATOR
⓬ PROGRAM PLAY INDICATOR
⓭ PAL INDICATOR
⓮ MPEG INDICATOR
⓯ DOLBY DIGITAL INDICATOR
⓰ LINEAR PCM INDICATOR
⓱ DTS INDICATOR

## Description-Front Panel DVD-709



### Front Panel Controls

❶ **STANDBY LAMP**
- When the unit is first plugged in, the indicator lights. When power is pressed on, the lamp goes out.

❷ **POWER**
- Use to turn the power on and off.

❸ **DISPLAY** (See below)
- Operation indicators are displayed here.

❹ **DISC TRAY**
- Press OPEN/CLOSE to open and close the disc tray.

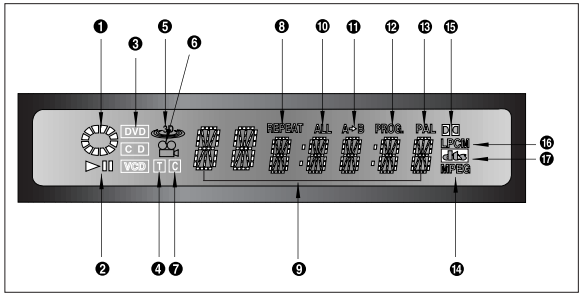
❺ **GREEN LAMP**

❻ **SKIP/SEARCH**
- Use to skip or search a scene or music.

❼ **OPEN/CLOSE**
- Press to open and close the disc tray.

❽ **PLAY/PAUSE**
- Begin or pause disc play.

❾ **STOP**
- Stops disc play.

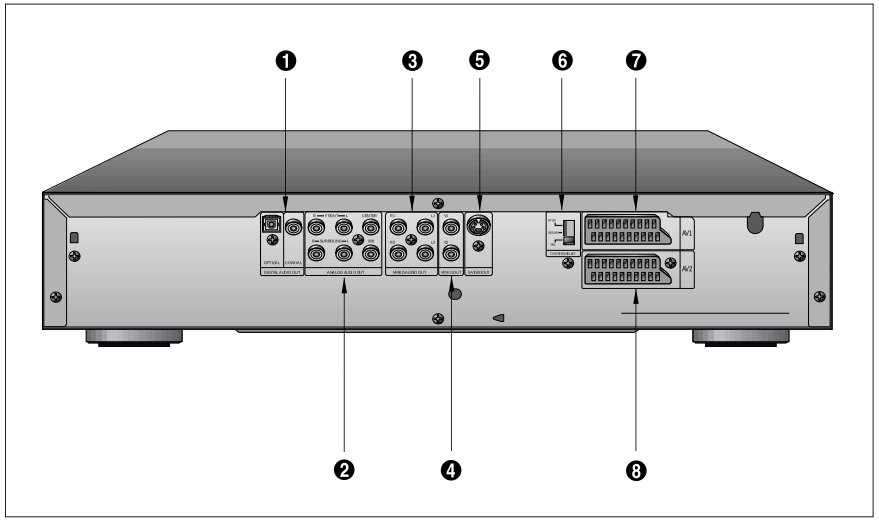


### Front Display

❶ DISC OPERATION ROTARY INDICATOR
❷ OPERATION INDICATOR
❸ DISC TYPE INDICATOR
❹ TRACK INDICATOR
❺ 3D SOUND INDICATOR
❻ ANGLE INDICATOR
❼ CHAPTER INDICATOR
❽ REPEAT INDICATOR
❾ CHAPTER, TITLE, TRACK & MESSAGE INDICATOR
❿ ALL REPEAT INDICATOR
⓫ A-B REPEAT INDICATOR
⓬ PROGRAM PLAY INDICATOR
⓭ PAL INDICATOR
⓮ MPEG INDICATOR
⓯ DOLBY DIGITAL INDICATOR
⓰ LINEAR PCM INDICATOR
⓱ DTS INDICATOR

# SCART JACK

## Description-Rear Panel DVD-909




### Rear Panel

❶ DIGITAL AUDIO OUT JACK
- Use either an optical or coaxial digital cable to connect to a compatible Dolby Digital receiver. Use to connect to an A/V Amplifier that contains the Dolby Digital decoder or DTS decoder.

❷ 5.1CH ANALOG AUDIO OUT JACKS
- Connect to an amplifier with 5.1ch analog input jacks.

❸ MIXED AUDIO OUT JACKS
- Connect to the Audio input jacks of your television, audio/video receiver, or VCR.

❹ VIDEO OUT JACKS
- Use a video cable to connect one of these jacks to the Video input on your television.

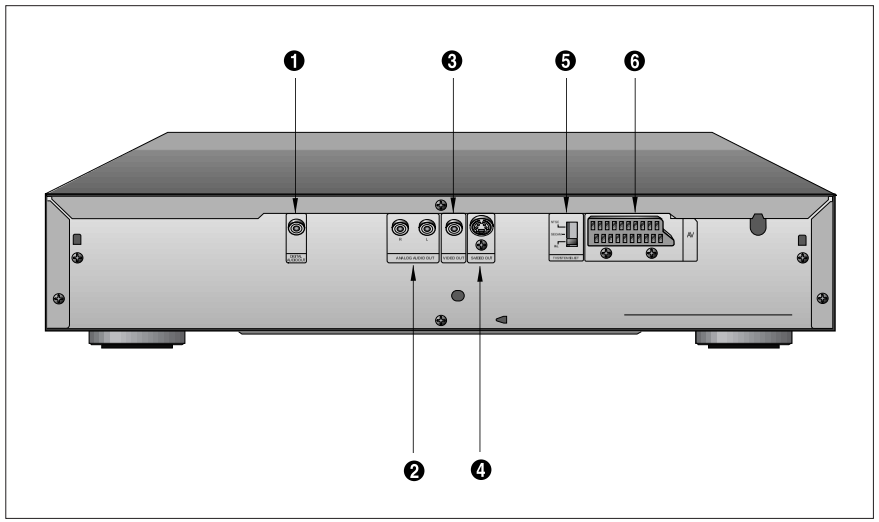
❺ S-VIDEO OUT JACK
- Use the S-Video cable to connect this jack to the S-Video jack on your television for a higher quality picture.

❻ TV SYSTEM SELECT SWITCH
- Use the switch to set TV system.

❼ SCART AV1 JACK
- Connect to a TV with scart input jack.

❽ SCART AV2 JACK
- Connect to a video recorder or other equipment.

## Description-Rear Panel DVD-709




### Rear Panel

❶ DIGITAL AUDIO OUT JACK
- Use a coaxial digital cable to connect to an A/V Amplifier that contains a Dolby Digital decoder or DTS decoder.

❷ ANALOG AUDIO OUT JACKS
- Connect to the Audio input jacks of your television, audio/video receiver, or VCR.

❸ VIDEO OUT JACK
- Use a video cable to connect this jack to the Video input on your television.

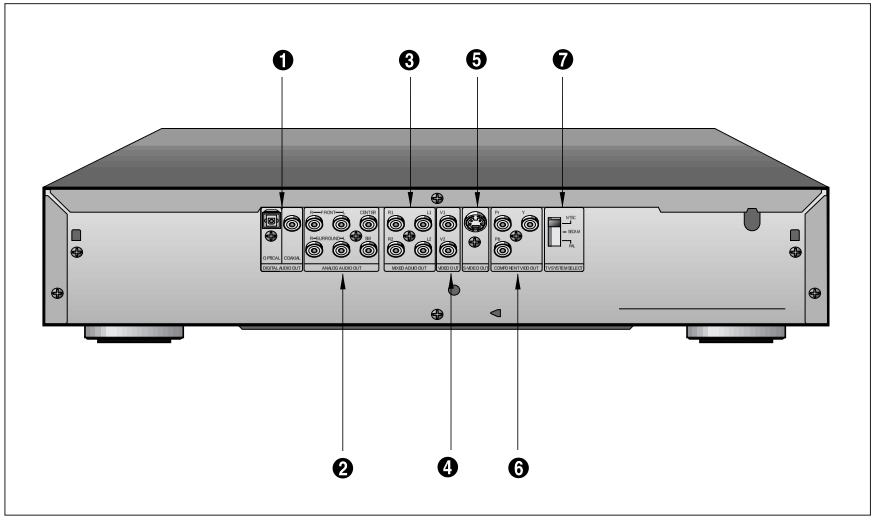
❹ S-VIDEO OUT JACK
- Use the S-Video cable to connect this jack to the S-Video jack on your television for a higher quality picture.

❺ TV SYSTEM SELECT SWITCH
- Use the switch to set TV system.

❻ SCART AV JACK
- Connect to a TV with scart input jack.

# COMPONENT VIDEO RCA JACK

## Description-Rear Panel DVD-909




### Rear Panel

❶ DIGITAL AUDIO OUT JACK
- Use either an optical or coaxial digital cable to connect to a compatible Dolby Digital receiver. Use to connect to an A/V Amplifier that contains the Dolby Digital decoder, MPEG-2 decoder or DTS decoder.

❷ 5.1CH ANALOG AUDIO OUT JACKS
- Connect to an amplifier with 5.1ch analog input jacks.

❸ MIXED AUDIO OUT JACKS
- Connect to the Audio input jacks of your television, audio/video receiver, or VCR.

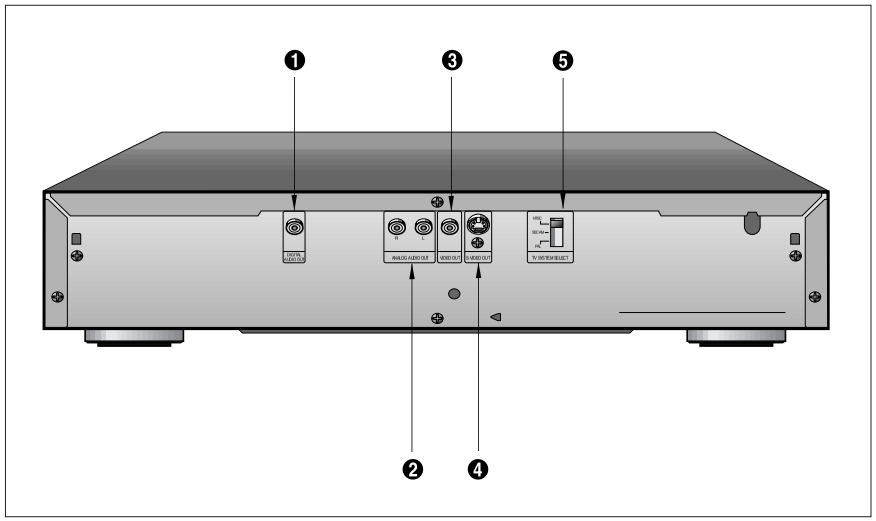
❹ VIDEO OUT JACKS
- Use a video cable to connect one of these jacks to the Video input on your television.

❺ S-VIDEO OUT JACK
- Use the S-Video cable to connect this jack to the S-Video jack on your television for a higher quality picture.

❻ COMPONENT VIDEO OUT JACKS
- Use these jacks if you have a TV with Component Video in jacks. These jacks provide Pr, Pb and Y video. Along with S-Video, Component Video provides the best picture quality.

❼ TV SYSTEM SELECT SWITCH
- Use the switch to set TV system.

## Description-Rear Panel DVD-709




### Rear Panel

❶ DIGITAL AUDIO OUT JACK
- Use a coaxial digital cable to connect to an A/V Amplifier that contains a Dolby Digital decoder, MPEG-2 decoder or DTS decoder.

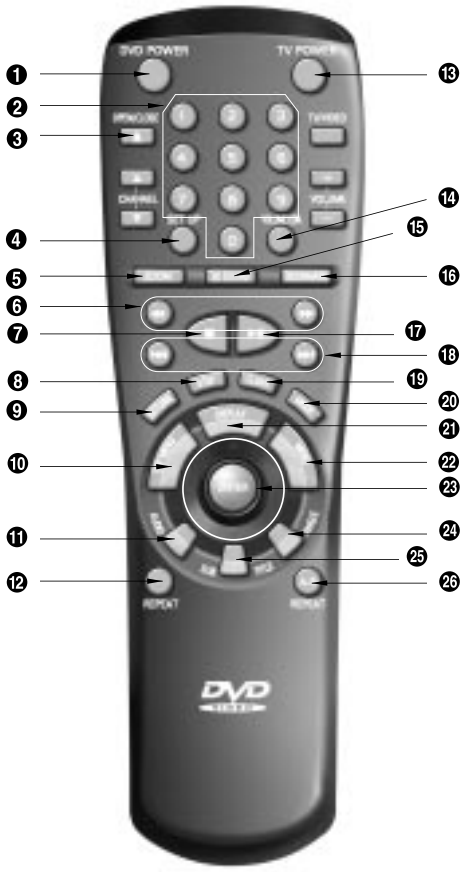
❷ ANALOG AUDIO OUT JACKS
- Connect to the Audio input jacks of your television, audio/video receiver, or VCR.

❸ VIDEO OUT JACK
- Use a video cable to connect this jack to the Video input on your television.

❹ S-VIDEO OUT JACK
- Use the S-Video cable to connect this jack to the S-Video jack on your television for a higher quality picture.

❺ TV SYSTEM SELECT SWITCH
- Use the switch to set TV system.

# A Tour of the Remote Control



## DVD Function Buttons

❶ **DVD POWER Button**
❷ **NUMBER Buttons**
❸ **OPEN/CLOSE Button**
❹ **SETUP Button**
• Brings up the DVD player's Setup menu.
❺ **ZOOM Button**
❻ **SEARCH Buttons**
• Allows you to search forward/backward through a disc.
❼ **STOP Button**
❽ **STEP Button**
• Advances playback one frame at a time.
❾ **RETURN Button**
• Returns to a previous menu.
❿ **TOP MENU Button**
• Accesses a music or video display directly.
⓫ **AUDIO Button**
• Use this button to access various audio functions on a disc.
⓬ **REPEAT Button**
• Allows you to repeat play a title, chapter, track, or disc.
⓭ **TV POWER Button**
• Use to set the remote to control a compatible TV.
⓮ **VOLUME CON. Button**
• To control the master volume of the player.
⓯ **3D SOUND Button**
⓰ **BOOKMARK Button**
⓱ **PLAY/PAUSE Button**
• Begin/Pause disc play.
⓲ **SKIP Buttons**
• Use to skip the title, chapter, or track.
⓳ **CLEAR Button**
• Use to remove menus or status displays from the screen.
⓴ **MODE Button**
• Allows you to program a specific order.
㉑ **DISPLAY Button**
• Displays the current disc mode.
㉒ **MENU Button**
• Brings up the Disc menu.
㉓ **ENTER/DIRECTION Button (UP/DOWN or LEFT/RIGHT Button)**
• This button functions as a toggle switch.
㉔ **ANGLE Button**
• Use to access various camera angles on a DVD.
㉕ **SUBTITLE Button**
㉖ **A-B REPEAT Button**
• Use to mark a segment to repeat between A and B.

# A Tour of the Remote Control (Cont'd)

## TV Function Buttons

❶ **TV POWER Button**
❷ **TV/VIDEO Selection Button**
❸ **CHANNEL UP/DOWN Buttons**
❹ **VOLUME UP/DOWN Buttons**

### Install Batteries in the Remote

1. Open the battery cover on the back of the remote.
2. Insert two AA batteries. Make sure that the polarities (+ and -) are aligned correctly.
3. Replace the battery cover.

### If remote doesn't operate properly:

- Check the polarity + - of the batteries (Dry-Cell)
- Check if the batteries are drained.
- Check if remote sensor is blocked by obstacles.
- Check if there is any fluorescent lighting nearby.

### To Connect Headphones (not included) (DVD-909 only)

Turn the headphone volume down to the minimum setting before connecting.
Adjust to your desired volume after connection.

**NOTE** This ⊘ icon indicates an invalid button press.

# SCART JACK

## Choosing a Connection DVD-909

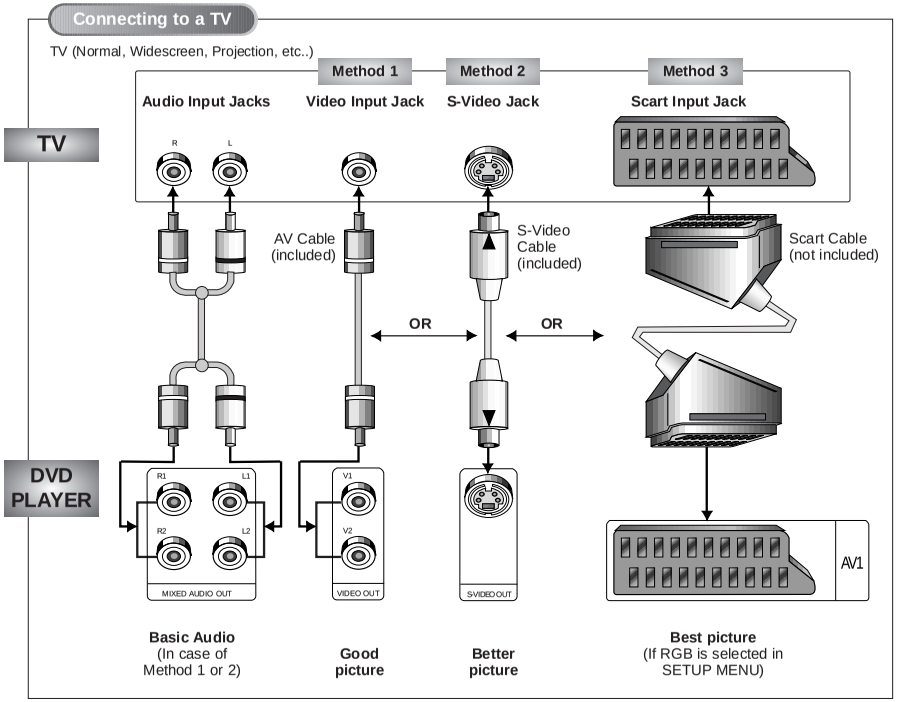
The following diagrams show common connection examples that can be used for connecting your DVD player to a TV or other equipment.

**Before Connecting the DVD Player**

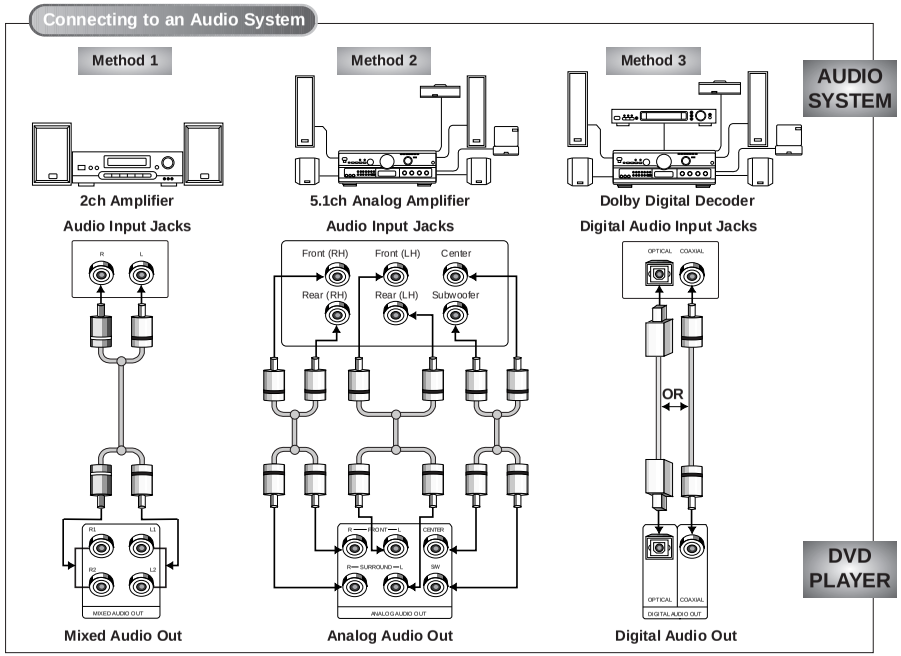
- Always turn off the DVD player, TV, and other components before you connect or disconnect any cables.
- Refer to owner's manual of the components you are connecting for more information on those particular components.

**Connecting to a TV (For Video)**

- **Method 1**
  DVD Player + TV with Video Input Jack
- **Method 2**
  DVD Player + TV with S-Video Input Jack
- **Method 3**
  DVD Player + TV with Scart Input Jack (Audio & Video)



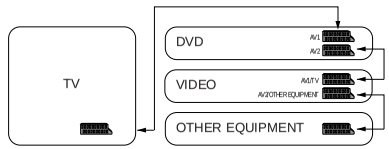

## Choosing a Connection (Cont'd)




**Connecting to an Audio System**

- **Method 1**
  DVD Player + 2ch Stereo Amplifier or Dolby Pro Logic Decoder
- **Method 2**
  DVD Player + Amplifier with 5.1ch Analog Input Jacks
- **Method 3**
  DVD Player + Amplifier with Dolby Digital Decoder/DTS Decoder

**An Example of Connecting DVD with Other Equipment**




**NOTE** You can build up the optimum AV system by following the connection examples on this page and the previous page.

# SCART JACK

## Choosing a Connection DVD-709

The following diagrams show common connection examples that can be used for connecting your DVD player to a TV or other equipment.

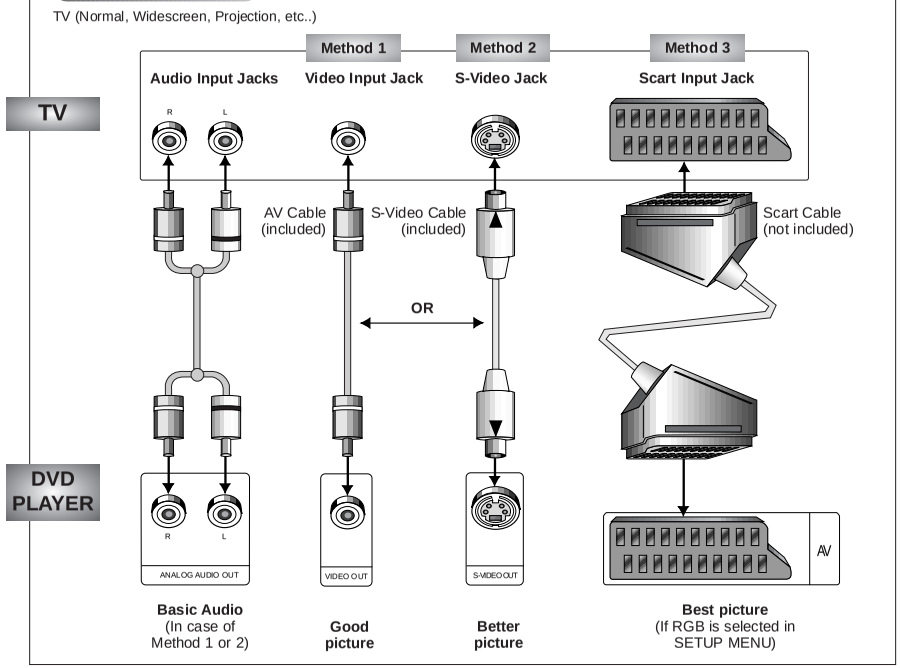
**Before Connecting the DVD Player**

- Always turn off the DVD player, TV, and other components before you connect or disconnect any cables.
- Refer to owner's manual of the additional components you are connecting for more information for those particular components.

**Connecting to a TV (For Video)**

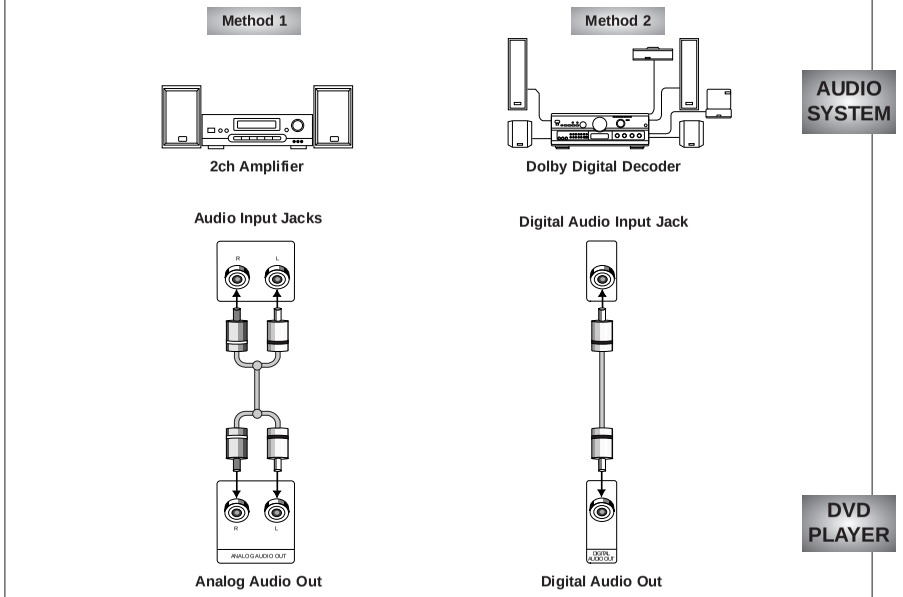
- **Method 1**
  DVD Player + TV with Video Input Jack
- **Method 2**
  DVD Player + TV with S-Video Input Jack
- **Method 3**
  DVD Player + TV with Scart Input Jack (Audio & Video)

**Connecting to a TV**




## Choosing a Connection (Cont'd)

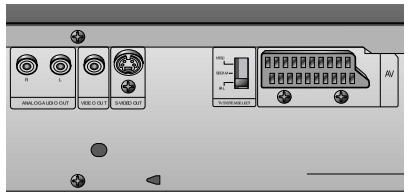
**Connecting to an Audio System**




**Connecting to an Audio System**

- **Method 1**
  DVD Player + 2ch Stereo Amplifier or Dolby Pro Logic Decoder
- **Method 2**
  DVD Player + Amplifier with Dolby Digital Decoder/DTS Decoder

**Rear Panel**



**NOTE** You can build up the optimum AV system by following the connection examples on this page and the previous page.

# COMPONENT VIDEO RCA JACK

## Choosing a Connection DVD-909

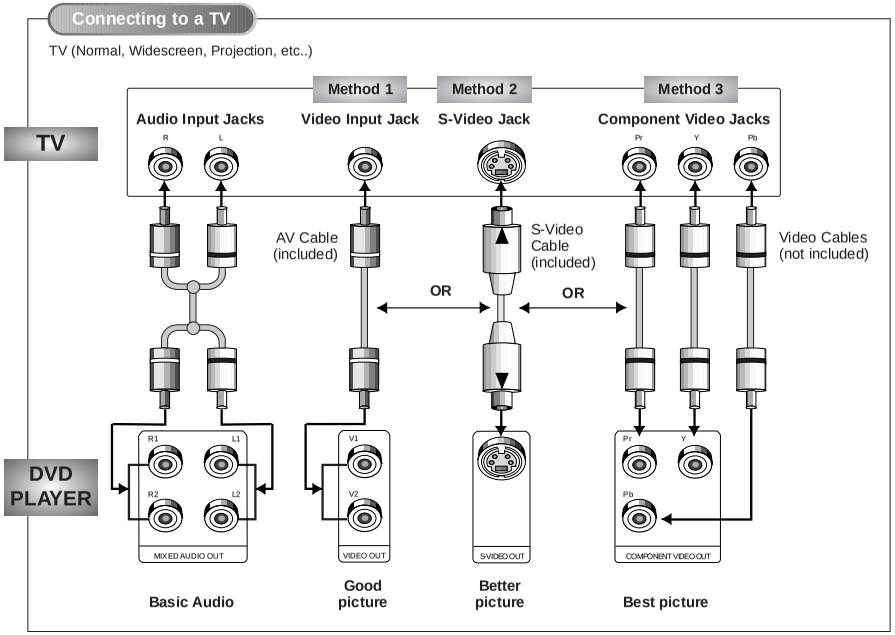
The following show examples of connections commonly used to connect the DVD player with a TV and other components.

**Before Connecting the DVD Player**

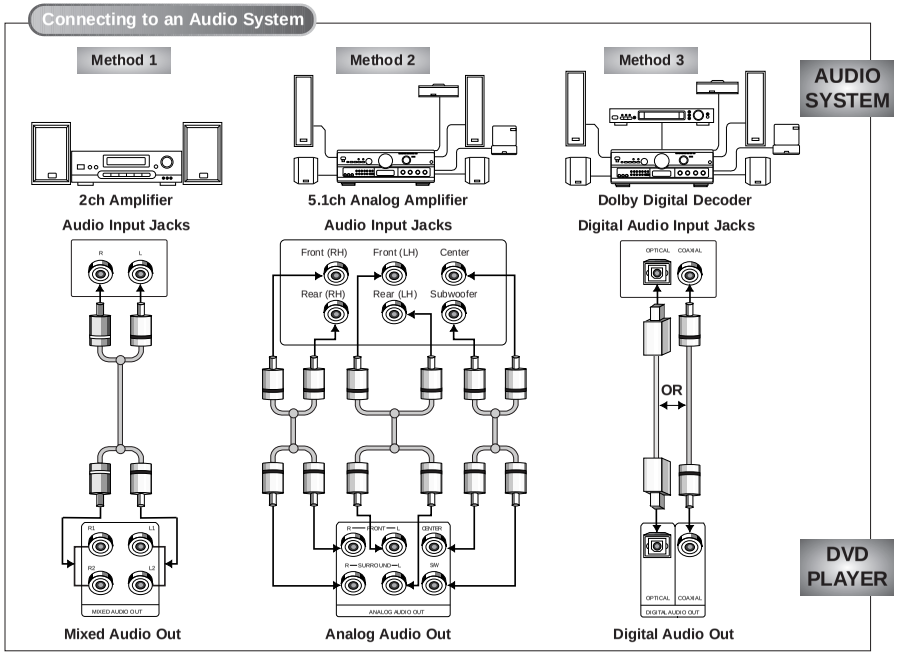
- Always turn off the DVD player, TV, and other components before you connect or disconnect any cables.
- Refer to owner's manual of the components you are connecting for more information on those particular components.

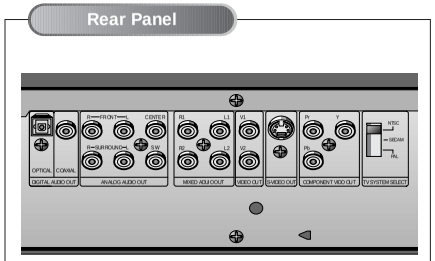
**Connecting to a TV (For Video)**

- **Method 1**
  DVD Player + TV with Video Input Jack
- **Method 2**
  DVD Player + TV with S-Video Input Jack
- **Method 3**
  DVD Player + TV with Component Video Jacks




## Choosing a Connection (Cont'd)




**Connecting to an Audio System**

- **Method 1**
  DVD Player + 2ch Stereo Amplifier or Dolby Pro Logic Decoder
- **Method 2**
  DVD Player + Amplifier with 5.1ch Analog Input Jacks
- **Method 3**
  DVD Player + Amplifier with Dolby Digital Decoder/MPEG-2 Decoder/DTS Decoder

# COMPONENT VIDEO RCA JACK

## Choosing a Connection DVD-709

The following show examples of connections commonly used to connect the DVD player with a TV and other components.

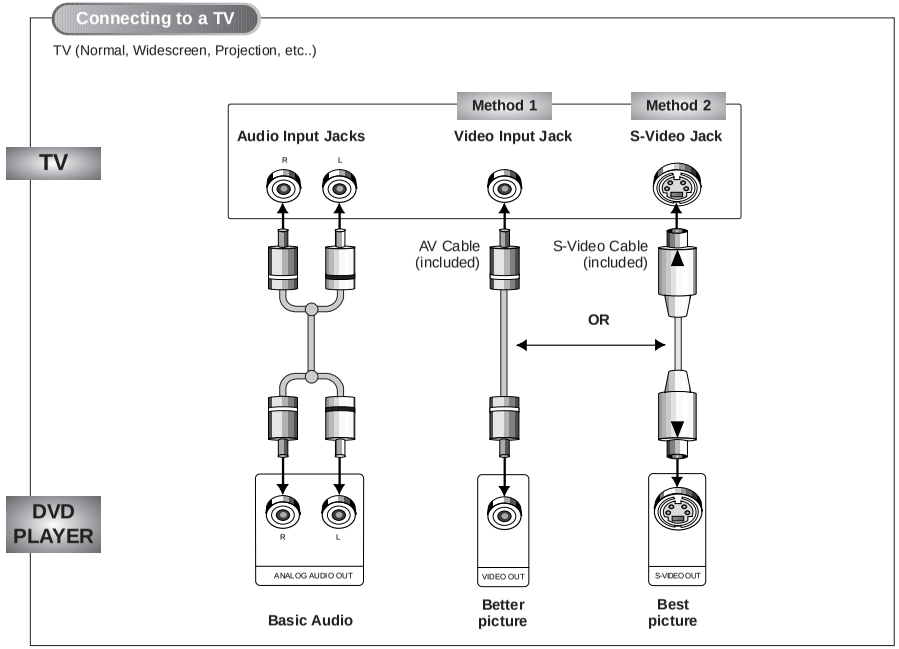
**Before Connecting the DVD Player**

- Always turn off the DVD player, TV, and other components before you connect or disconnect any cables.
- Refer to owner's manual of the additional components you are connecting for more information for those particular components.

**Connecting to a TV (For Video)**

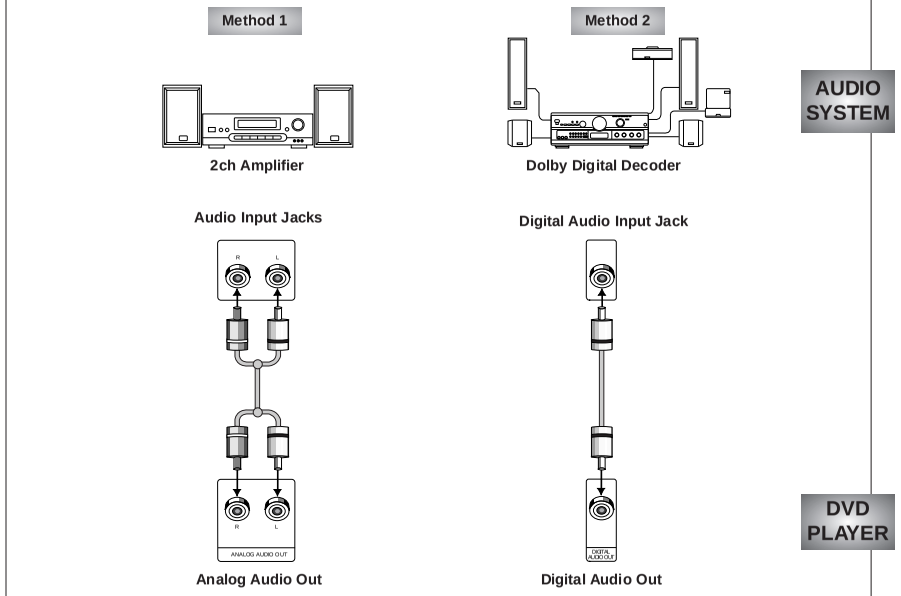
- **Method 1**
  DVD Player + TV with Video Input Jack
- **Method 2**
  DVD Player + TV with S-Video Input Jack

**Connecting to a TV**

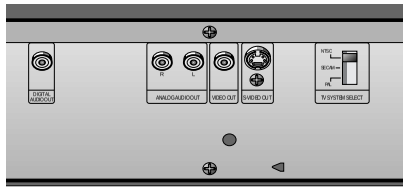



## Choosing a Connection (Cont'd)

**Connecting to an Audio System**




**Rear Panel**

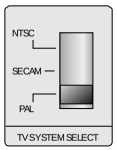


**Connecting to an Audio System**

- **Method 1**
  DVD Player + 2ch Stereo Amplifier or Dolby Pro Logic Decoder
- **Method 2**
  DVD Player + Amplifier with Dolby Digital Decoder/MPEG-2 Decoder/DTS Decoder

# TV system select (PAL/SECAM)

You can enjoy NTSC or PAL encoded discs by using your TV SYSTEM SELECT switch to choose the appropriate system.

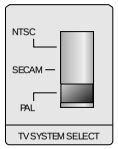



* This switch is located in the rear of DVD player.

- Only when you playback PAL-encoded DVD with NTSC-TV. The player can not playback the disc.
- When the selected TV-SYSTEM doesn't coincide with the system of your TV, normal color picture may not be displayed.
- Select the TV-SYSTEM when in stop mode.
- When you playback NTSC-encoded disc with PAL-TV, some discs may produce black bands at the top and bottom of the screen.

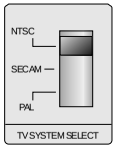
**If you use PAL-TV**

You should set TV SYSTEM to 'PAL'.



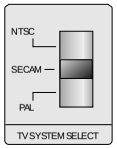

**If you use NTSC-TV**

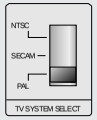
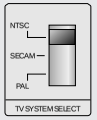
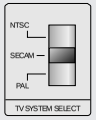
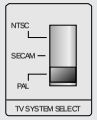
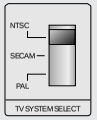
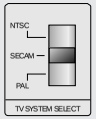
You should set TV SYSTEM to 'NTSC'.




**If you use SECAM-TV**

You should set TV SYSTEM to 'SECAM'.

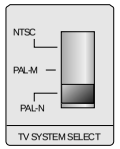



| DISC \ TV | PAL | NTSC | SECAM |
|---|---|---|---|
| NTSC-encoded (DVD/VIDEO-CD) |  |  |  |
| PAL-encoded (DVD/VIDEO-CD) |  |  • VIDEO-CD only. |  |



# TV system select (PAL-N/M)

You can enjoy NTSC or PAL-N/M encoded discs by using your TV SYSTEM SELECT switch to choose the appropriate system.

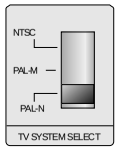



* This switch is located in the rear of DVD player.

- Only when you playback PAL-N/M-encoded DVD with NTSC-TV, the player can not playback the disc.
- When the selected TV-SYSTEM doesn't coincide with the system of your TV, normal color picture may not be displayed.
- Select the TV-SYSTEM when in stop mode.
- When you playback NTSC-encoded disc with PAL-N/M-TV, some discs may produce black bands at the top and bottom of the screen.

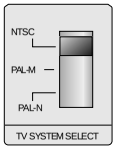
**If you use PAL-N**

You should set TV SYSTEM to 'PAL-N'.



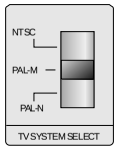

**If you use NTSC-TV**

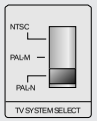
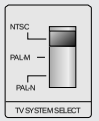
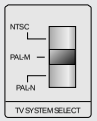
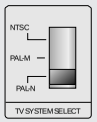
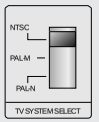
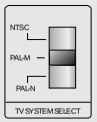
You should set TV SYSTEM to 'NTSC'.




**If you use PAL-M-TV**

You should set TV SYSTEM to 'PAL-M'.




| DISC \ TV | PAL-N | NTSC | PAL-M |
|---|---|---|---|
| NTSC-encoded (DVD/VIDEO-CD) |  |  |  |
| PAL-N/M-encoded (DVD/VIDEO-CD) |  |  • VIDEO-CD only. |  |

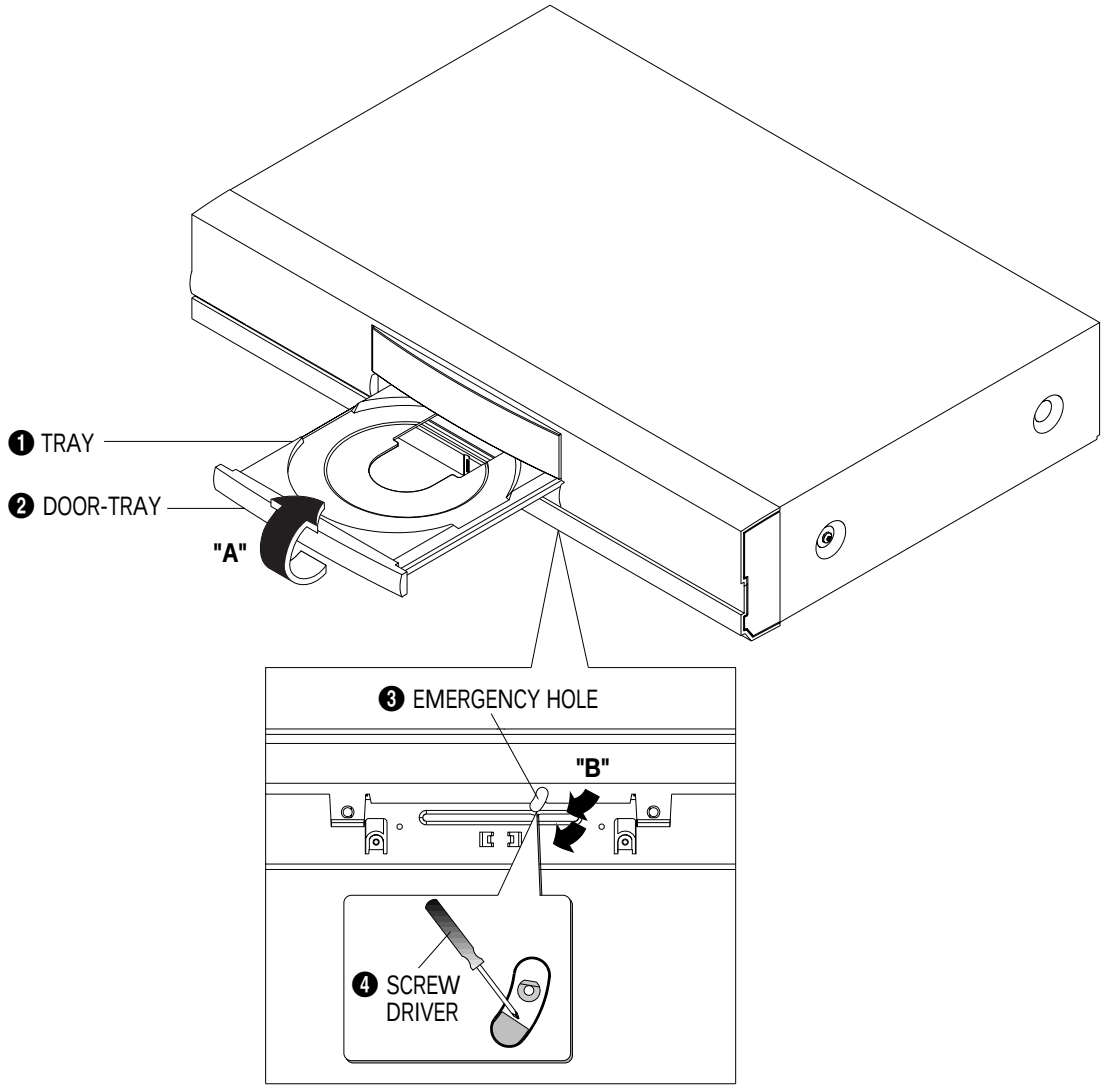
# 5. Disassembly and Reassembly

## 5-1 Cabinet and PCB

### 5-1-1 Door-Tray Removal

1) Supply power and open Tray ❶.
2) Disassemble the Door-Tray ❷ in direction of arrow "A".
3) Close Tray ❶ and power off.

**Note** : If Tray ❶ doesn't open, insert a Screw driver ❹ into the Emergency hole ❸(as shown in detailed drawing) and then turn it in the direction of arrow "B". Open Tray manually.




<Bottom View>

Fig. 5-1 Door-Tray Removal

## 5-1-2 Top Cabinet Removal

1) Remove 3 Screws ❶ on the back Top Cabinet.
2) Remove 2 Screws ❷, ❸ on the left and right side.
3) Lift up the Top Cabinet in direction of arrow.

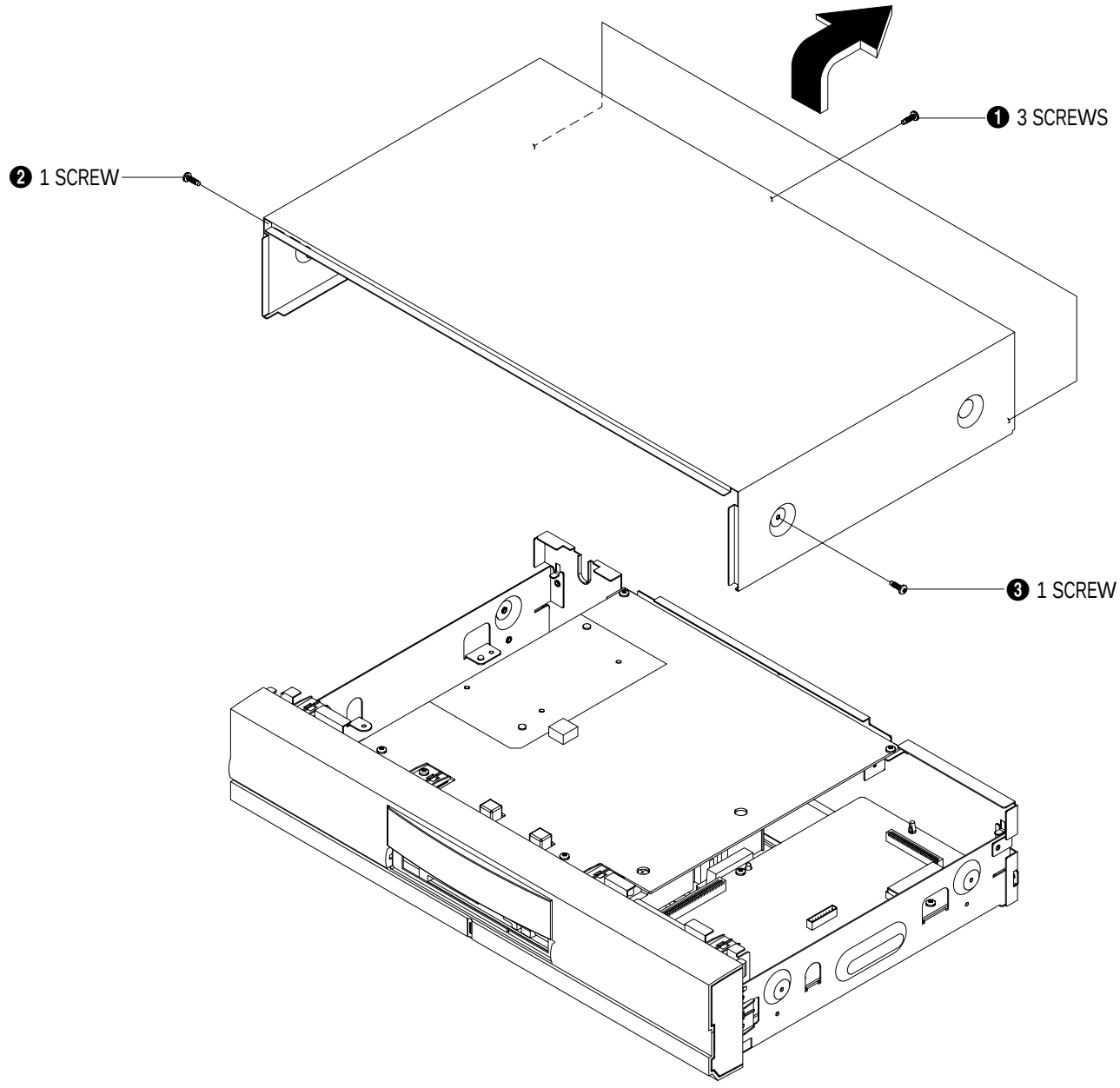



Fig. 5-2 Top Cabinet Removal

## 5-1-3 Ass'y Front-Panel, Phone/Power PCB, Play PCB Removal (DVD-909)

1) Remove 2 Screws ❶ and Ass'y Front Panel ❷.
2) Remove Knob-Volume ❸ and 2 Screws ❹.
3) Remove Bracket-Phone ❺ and Phone/Power PCB ❻.
4) Remove Knob-Jog ❼ and Knob-Shuttle ❽.
5) Remove 4 Screws ❾ and Play PCB ❿.

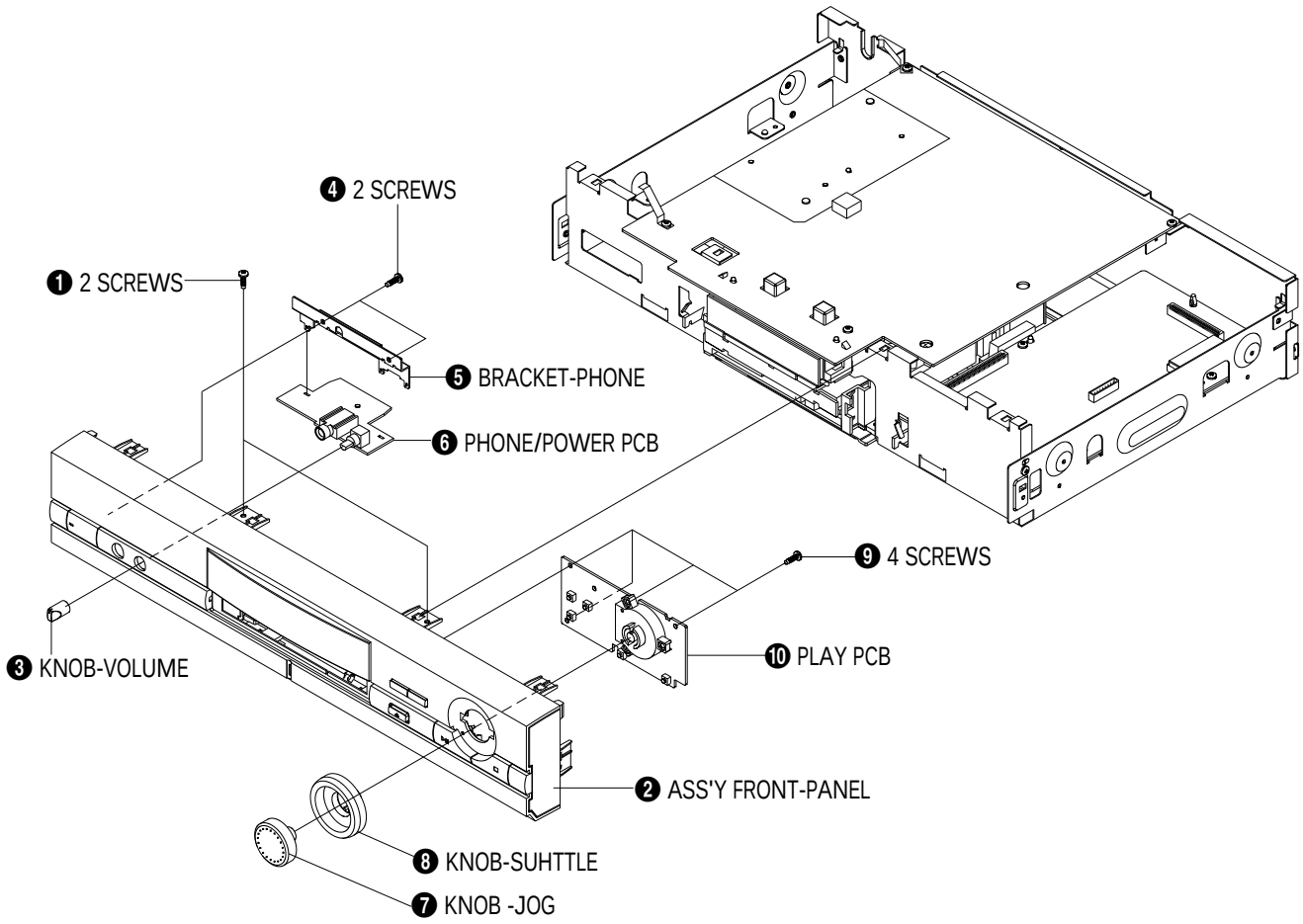



Fig. 5-3 Ass'y Front-Panel, Phone/Power PCB, Play PCB Removal (DVD-909)

## 5-1-4 Ass'y Front-Panel, Power PCB, Play PCB Removal (DVD-709)

1) Remove 2 Screws ❶ and Ass'y Front Panel ❷.
2) Remove 2 Screws ❸ and Power PCB ❹.
3) Remove 3 Screws ❺ and Play PCB ❻.

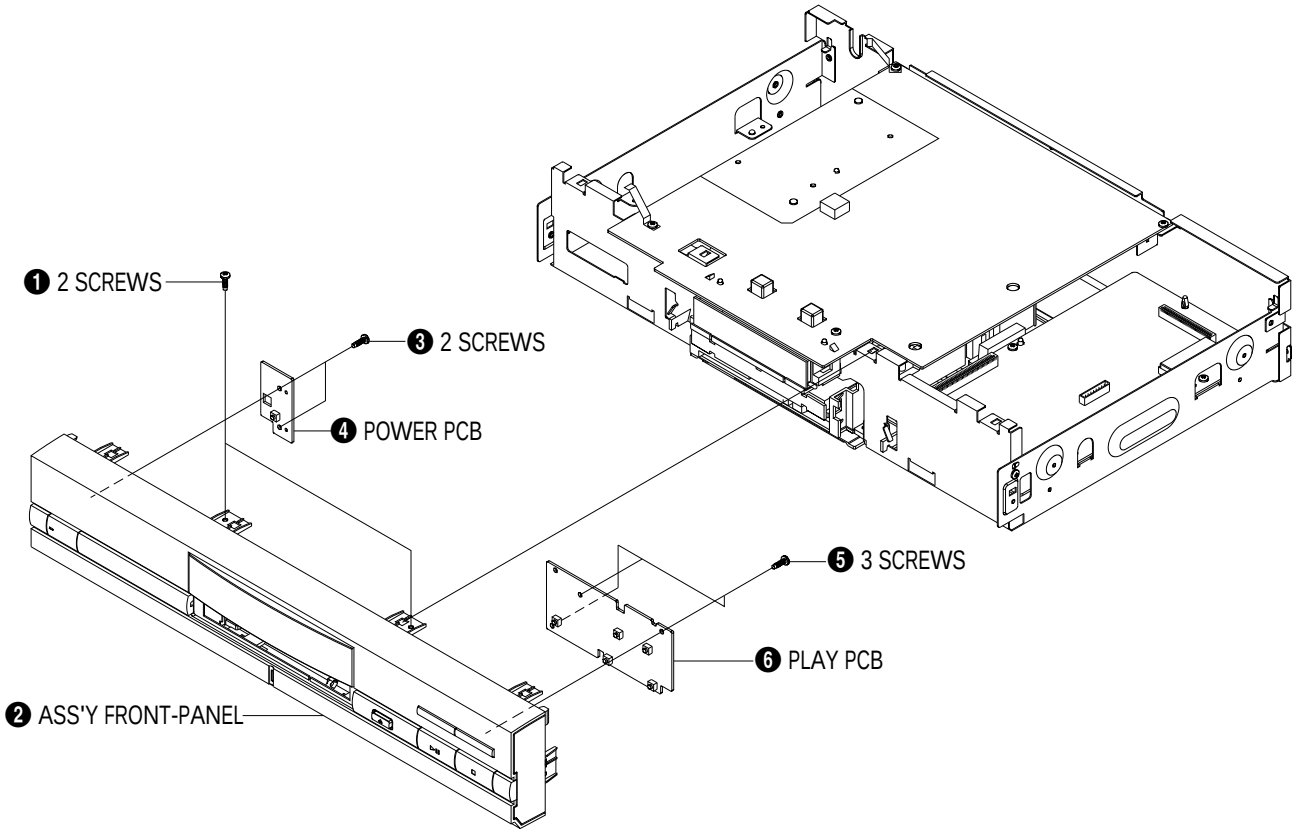



Fig. 5-4 Ass'y Front-Panel, Power PCB, Play PCB Removal (DVD-709)

## 5-1-5 Main PCB, Jack PCB Removal (DVD-909 ; Component Video RCA Jack Model)

1) Remove 4 Screws ❶ and 5 Screws ❷.
2) Lift up the Jack PCB ❸.
3) Remove 3 Screws ❹ and lift up the Main PCB ❺.

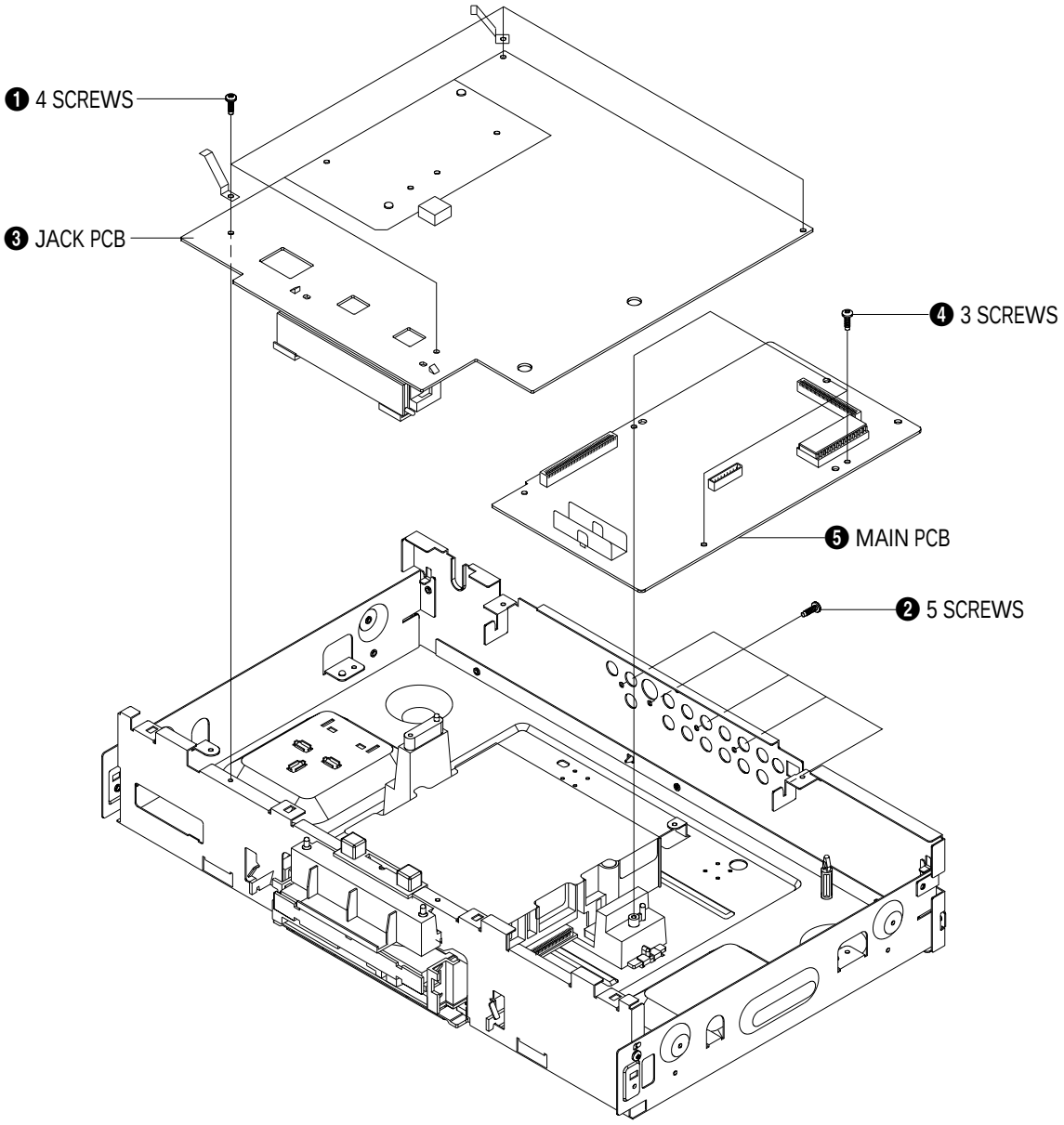



Fig. 5-5 Main PCB, Jack PCB Removal (DVD-909 ; Component Video RCA Jack Model)

## 5-1-6 Main PCB, Jack PCB Removal (DVD-709 ; Component Video RCA Jack Model)

1) Remove 4 Screws ❶ and 1 Screw ❷.
2) Lift up the Jack PCB ❸.
3) Remove 3 Screws ❹ and lift up the Main PCB ❺.

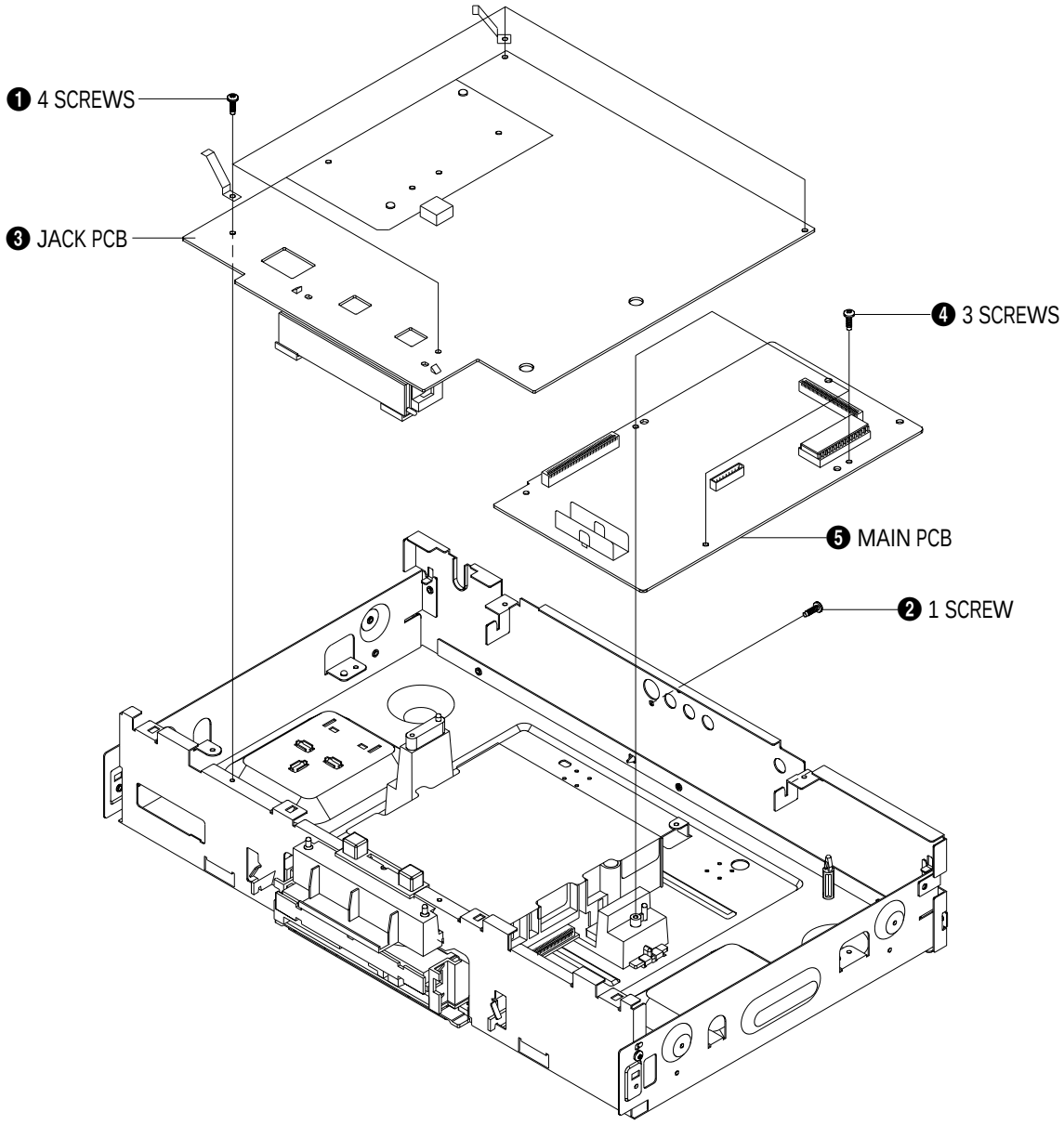



Fig. 5-6 Main PCB, Jack PCB Removal (DVD-709 ; Component Video RCA Jack Model)

## 5-1-7 Main PCB, Jack PCB Removal (DVD-909 ; Scart Jack Model)

1) Remove 4 Screws ❶ and 6 Screws ❷.
2) Lift up the Jack PCB ❸.
3) Remove 3 Screws ❹ and lift up the Main PCB ❺.

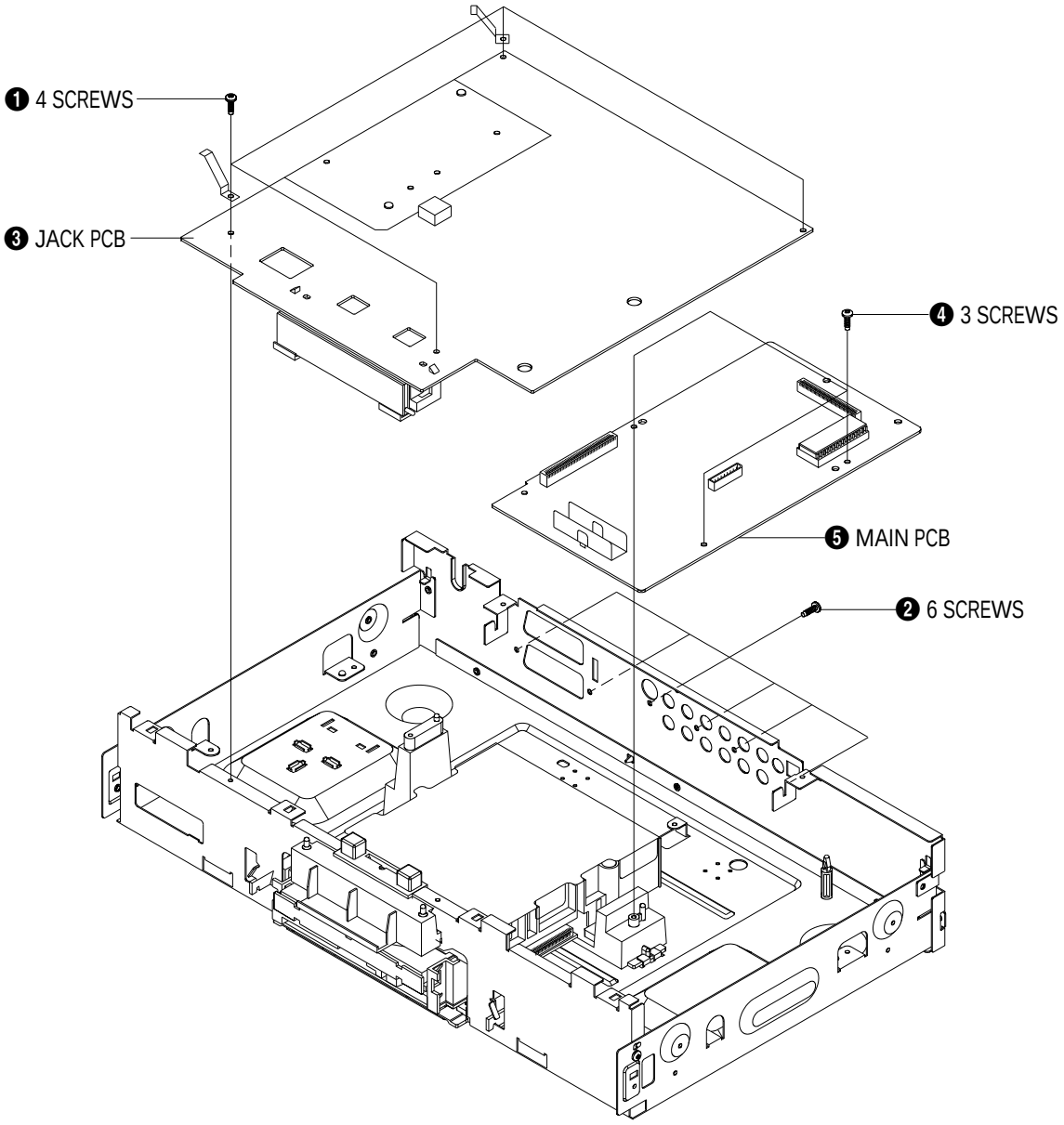



Fig. 5-7 Main PCB, Jack PCB Removal (DVD-909 ; Scart Jack Model)

## 5-1-8 Main PCB, Jack PCB Removal (DVD-709 ; Scart Jack Model)

1) Remove 4 Screws ❶ and 3 Screws ❷.
2) Lift up the Jack PCB ❸.
3) Remove 3 Screws ❹ and lift up the Main PCB ❺.

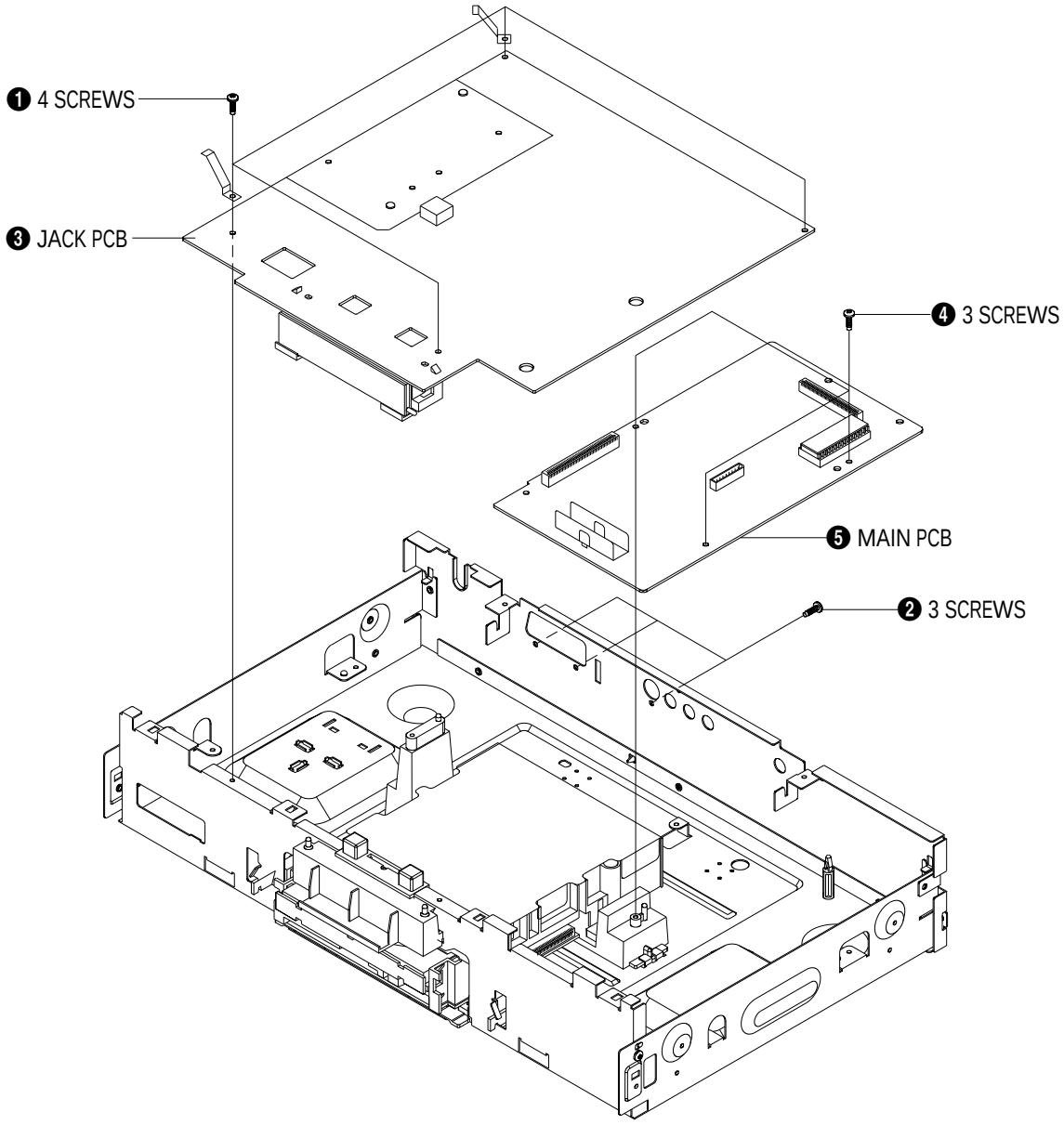



Fig. 5-8 Main PCB, Jack PCB Removal (DVD-709 ; Scart Jack Model)

## 5-1-9 Ass'y Deck Removal

1) Remove 4 Screws ❶ from the Ass'y Deck and lift it up.

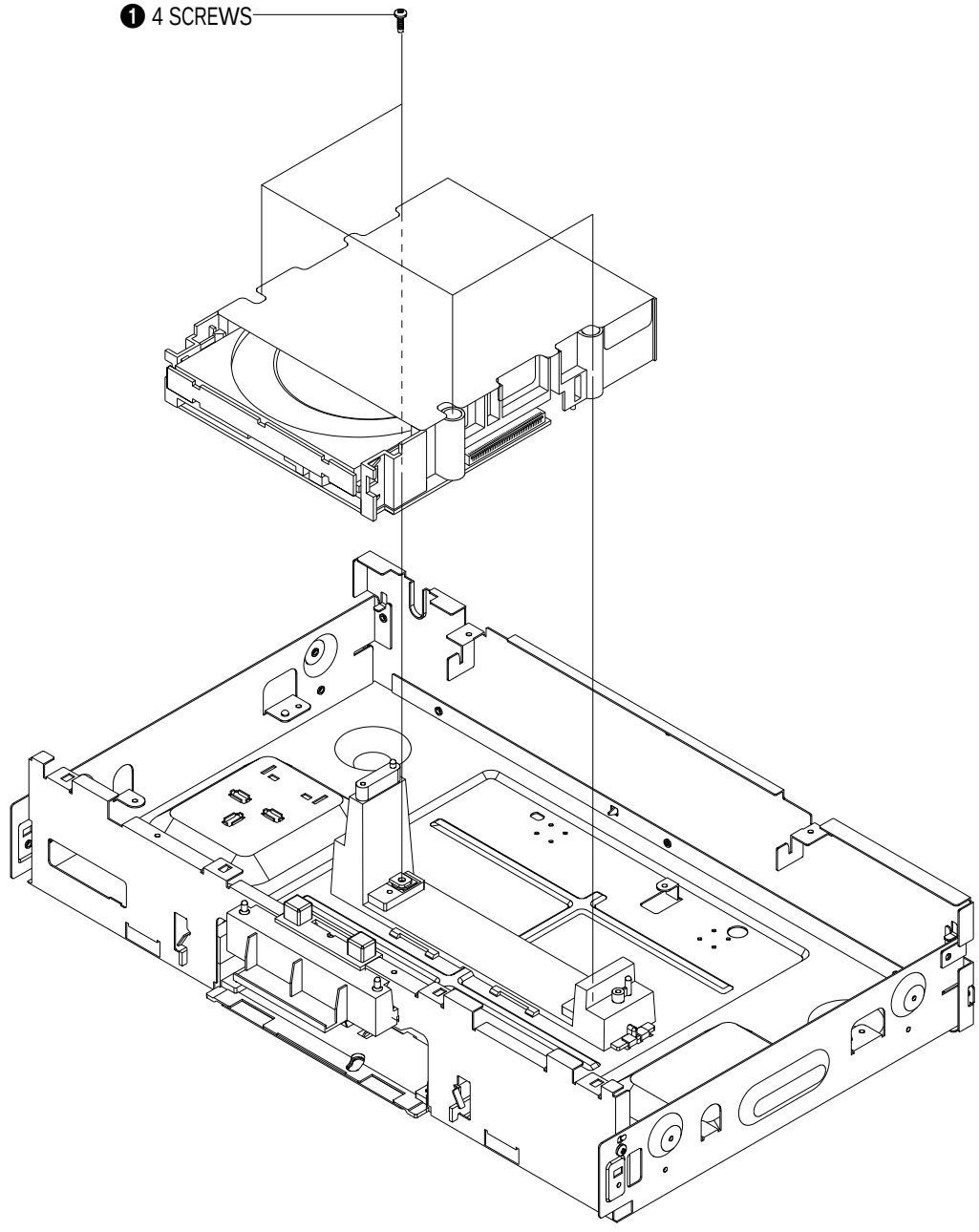



Fig. 5-9 Ass'y Deck Removal

## 5-2 PCB Location

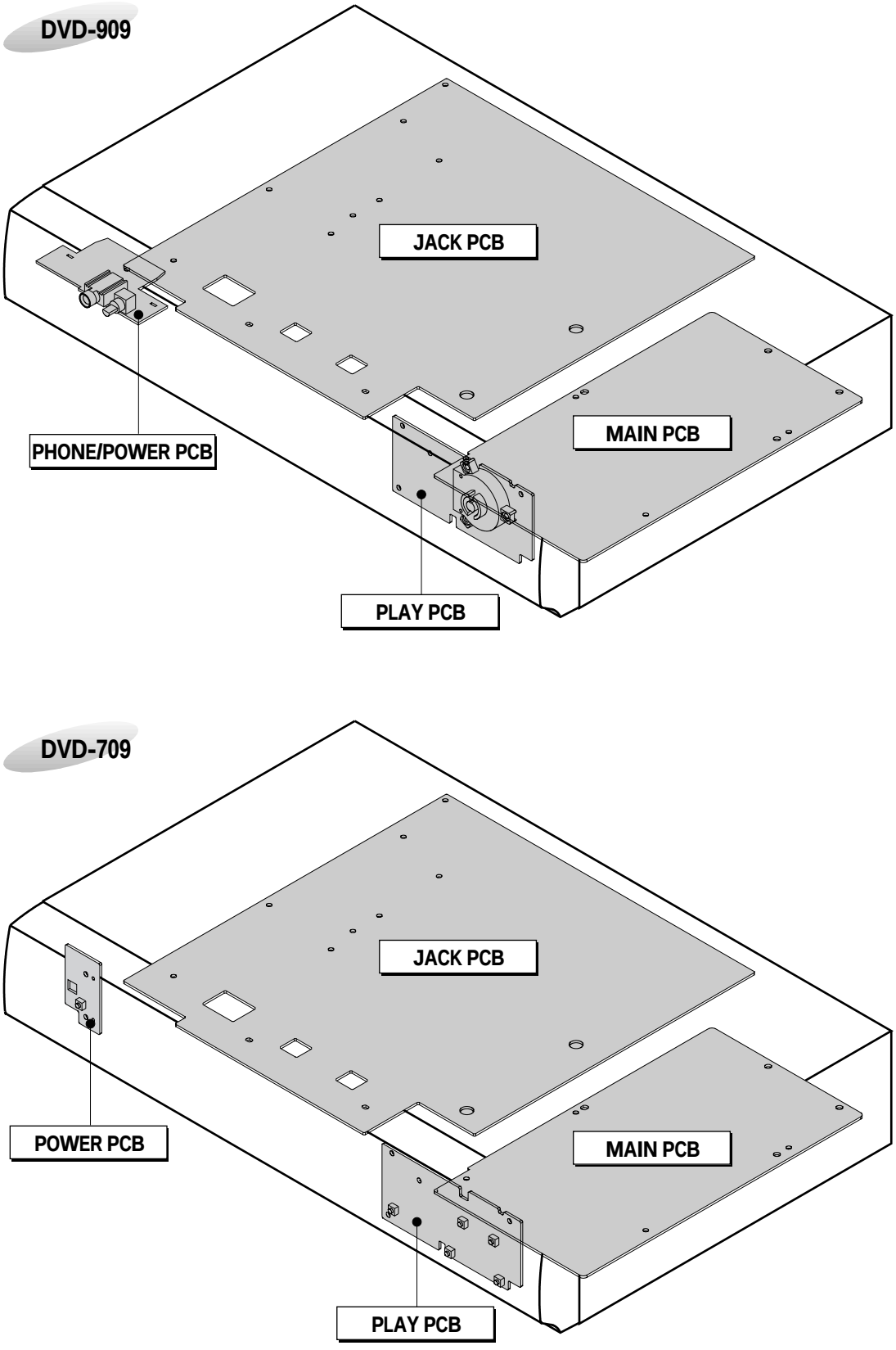
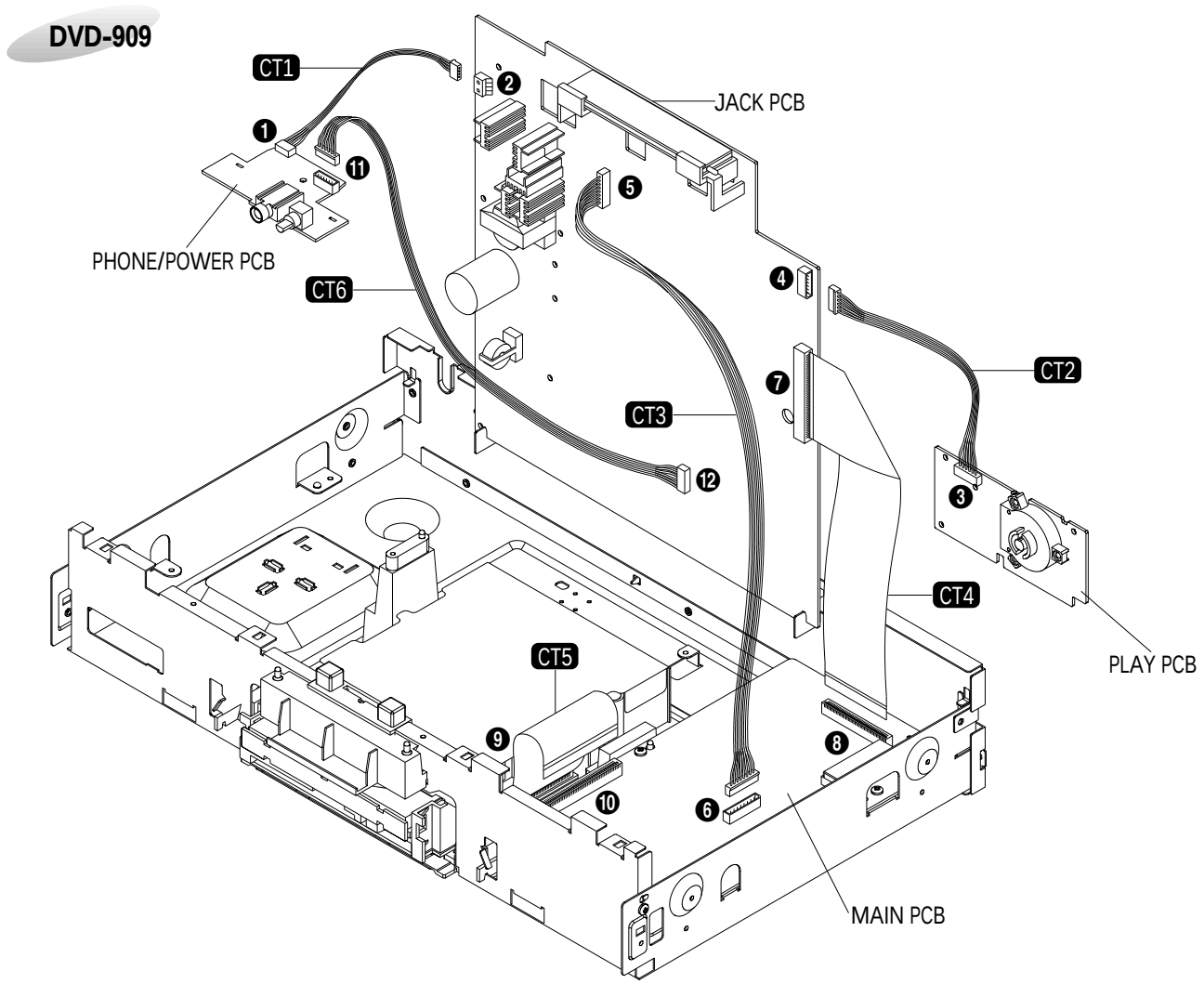



Fig. 5-10 PCB Location

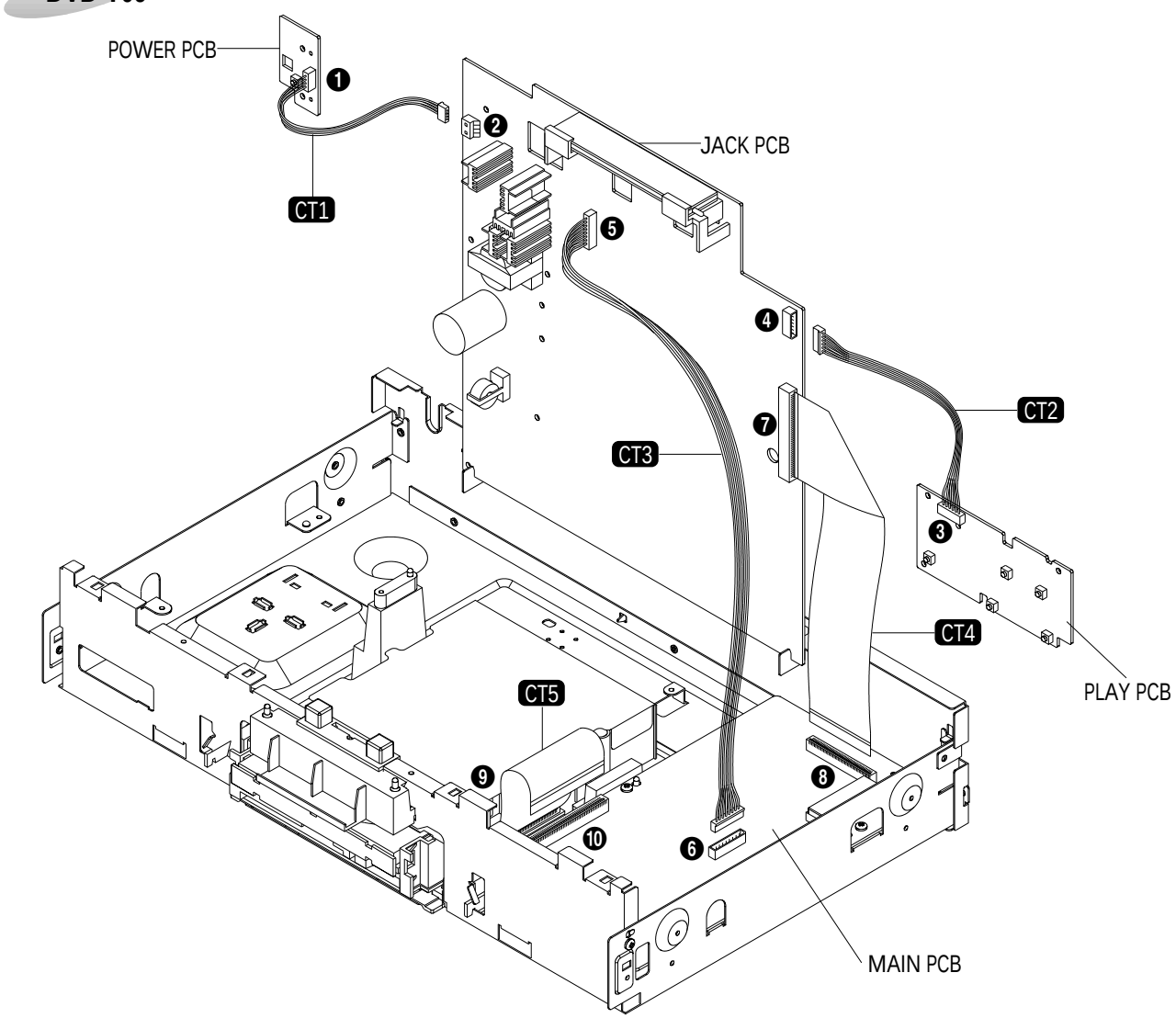
## 5-3 Connector Diagram




| NO. | CONNECTOR NO. | DIRECTION | CONNECTOR NO. |
|---|---|---|---|
| ❶ | CON23-A | PHONE/POWER PCB ◄ CT1 ► JACK PCB | CN18 |
| ❷ | CN18 | JACK PCB ◄ CT1 ► PHONE/POWER PCB | CON23-A |
| ❸ | CON21 | PLAY PCB ◄ CT2 ► JACK PCB | CN15 |
| ❹ | CN15 | JACK PCB ◄ CT2 ► PLAY PCB | CON21 |
| ❺ | CN12 | JACK PCB ◄ CT3 ► MAIN PCB | CN7 |
| ❻ | CN7 | MAIN PCB ◄ CT3 ► JACK PCB | CN12 |
| ❼ | CN11 | JACK PCB ◄ CT4 ► MAIN PCB | CN8 |
| ❽ | CN8 | MAIN PCB ◄ CT4 ► JACK PCB | CN11 |
| ❾ | CN5 | DECK PCB ◄ CT5 ► MAIN PCB | CN6 |
| ❿ | CN6 | MAIN PCB ◄ CT5 ► DECK PCB | CN5 |
| ⓫ | CON23 | PHONE/POWER PCB ◄ CT6 ► JACK PCB | CN17 |
| ⓬ | CN17 | JACK PCB ◄ CT6 ► PHONE/POWER PCB | CON23 |

Fig. 5-11 Connector Diagram (DVD-909)

**DVD-709**




| NO. | CONNECTOR NO. | DIRECTION | CONNECTOR NO. |
|---|---|---|---|
| ❶ | KCN2 | POWER PCB ◄ CT1 ► JACK PCB | CN18 |
| ❷ | CN18 | JACK PCB ◄ CT1 ► POWER PCB | KCN2 |
| ❸ | CON22 | PLAY PCB ◄ CT2 ► JACK PCB | CN16 |
| ❹ | CN16 | JACK PCB ◄ CT2 ► PLAY PCB | CON22 |
| ❺ | CN12 | JACK PCB ◄ CT3 ► MAIN PCB | CN7 |
| ❻ | CN7 | MAIN PCB ◄ CT3 ► JACK PCB | CN12 |
| ❼ | CN11 | JACK PCB ◄ CT4 ► MAIN PCB | CN8 |
| ❽ | CN8 | MAIN PCB ◄ CT4 ► JACK PCB | CN11 |
| ❾ | CN5 | DECK PCB ◄ CT5 ► MAIN PCB | CN6 |
| ❿ | CN6 | MAIN PCB ◄ CT5 ► DECK PCB | CN5 |

Fig. 5-12 Connector Diagram (DVD-709)

# 5-4 Deck

## 5-4-1 Tray Removal

1) Remove 2 Screws ❶ and lift up the Cover Sheet ❷, Ass'y-Deck Clamper ❸.
2) Insert a Screw driver ❺ into Emergency hole ❹ and push it in the direction of arrow "A".
   When the Tray ❻ comes out a little, pull it in the direction of arrow "B" by hand.
3) Pull the Tray ❻ to disassemble, while simultaneously pushing the Hook ❼, ❽ in direction of arrow "A", "B".

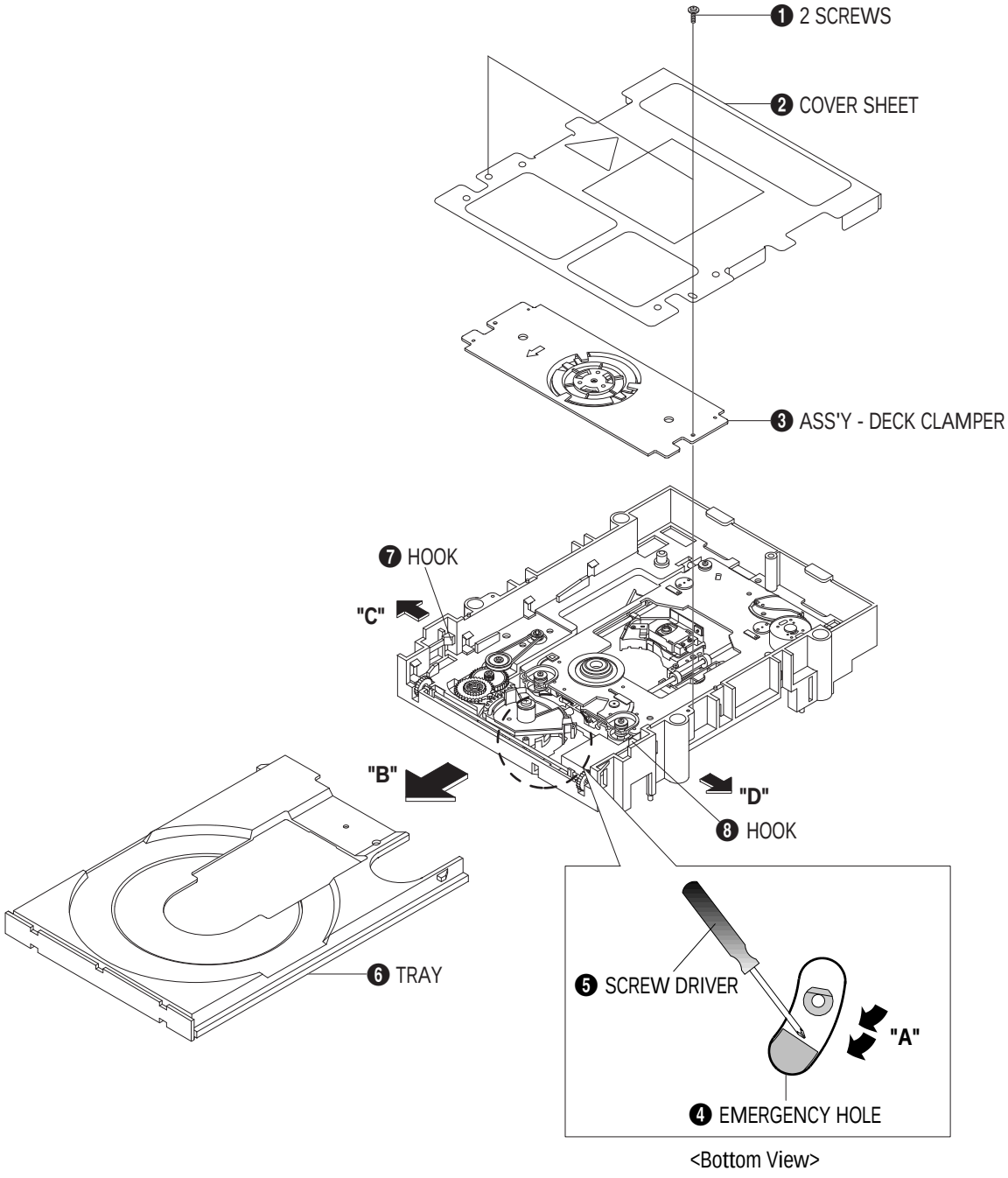



Fig. 5-13 Tray Removal

## 5-4-2 Ass'y-Deck Sub Removal

1) Remove 2 Screws ❶ and disassemble the Ass'y-PCB deck ❷.
2) Disassemble the Ass'y-Deck Sub ❹ in direction of arrow "B", while simultaneously pushing the Hook ❸ in direction of arrow "A".

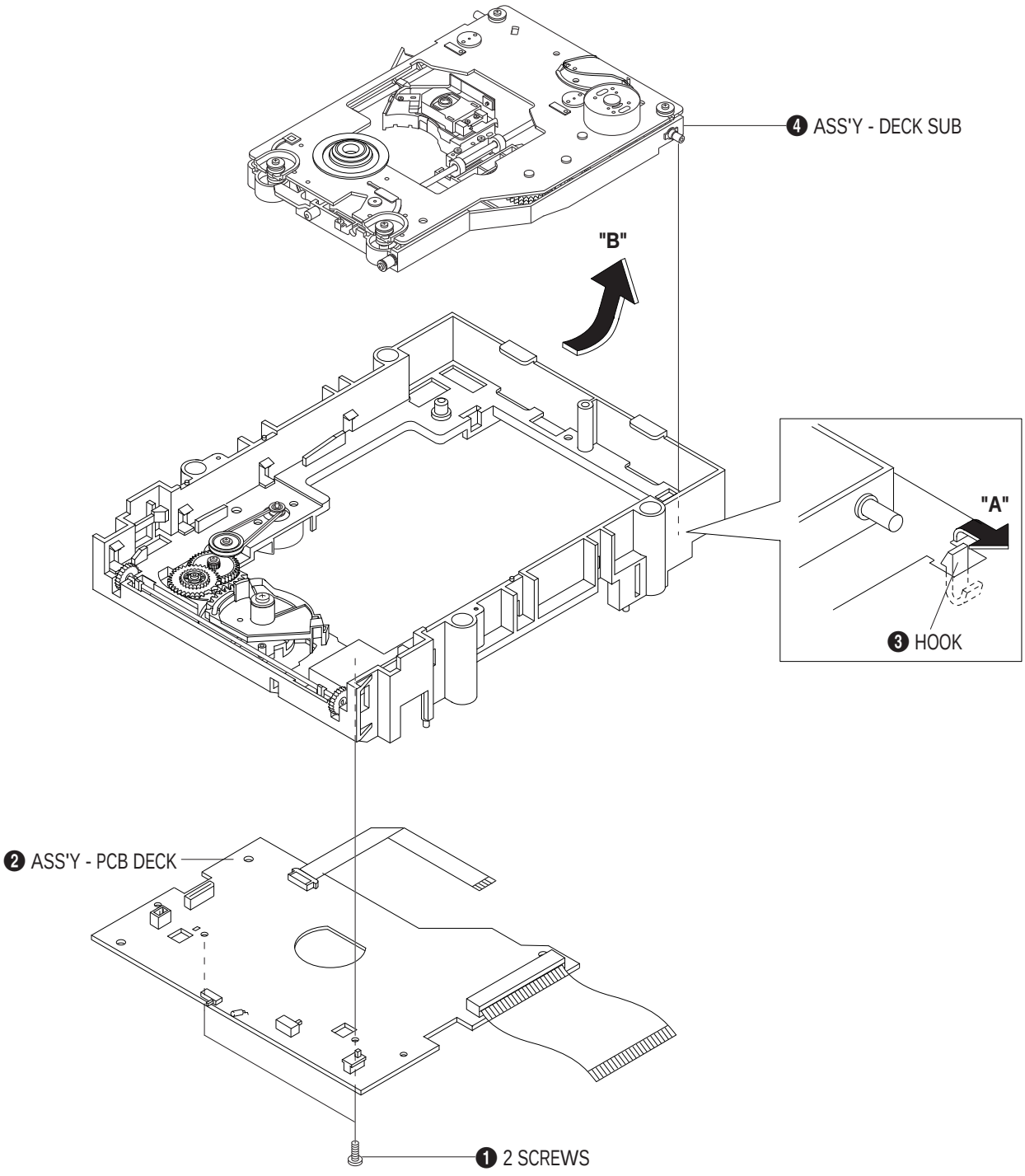



Fig. 5-14 Ass'y-Deck Sub Removal

### 5-4-3 Chassis-Main Parts Removal

1) Lift up the Gear-Tray ❶, remove 1 Screw ❷ and lift up the Gear-Cam Center ❸.
2) Lift up the Belt-Pulley ❹, remove 1 Screw ❺ and lift up the Pulley-Gear ❻.
3) Remove 1 Screw ❼ and lift up the Gear-Tray A ❽ and Gear-Cam Sub ❾.
4) Remove 2 Screws ❿ and disassemble the Ass'y-Motor Load ⓫.
5) Remove 1 Screw ⓬ and disassemble the Lever-Open S/W ⓭.
6) Lift up the Shaft-Syncro ⓮ and remove the 2 Gear-Syncro ⓯ in both directions.

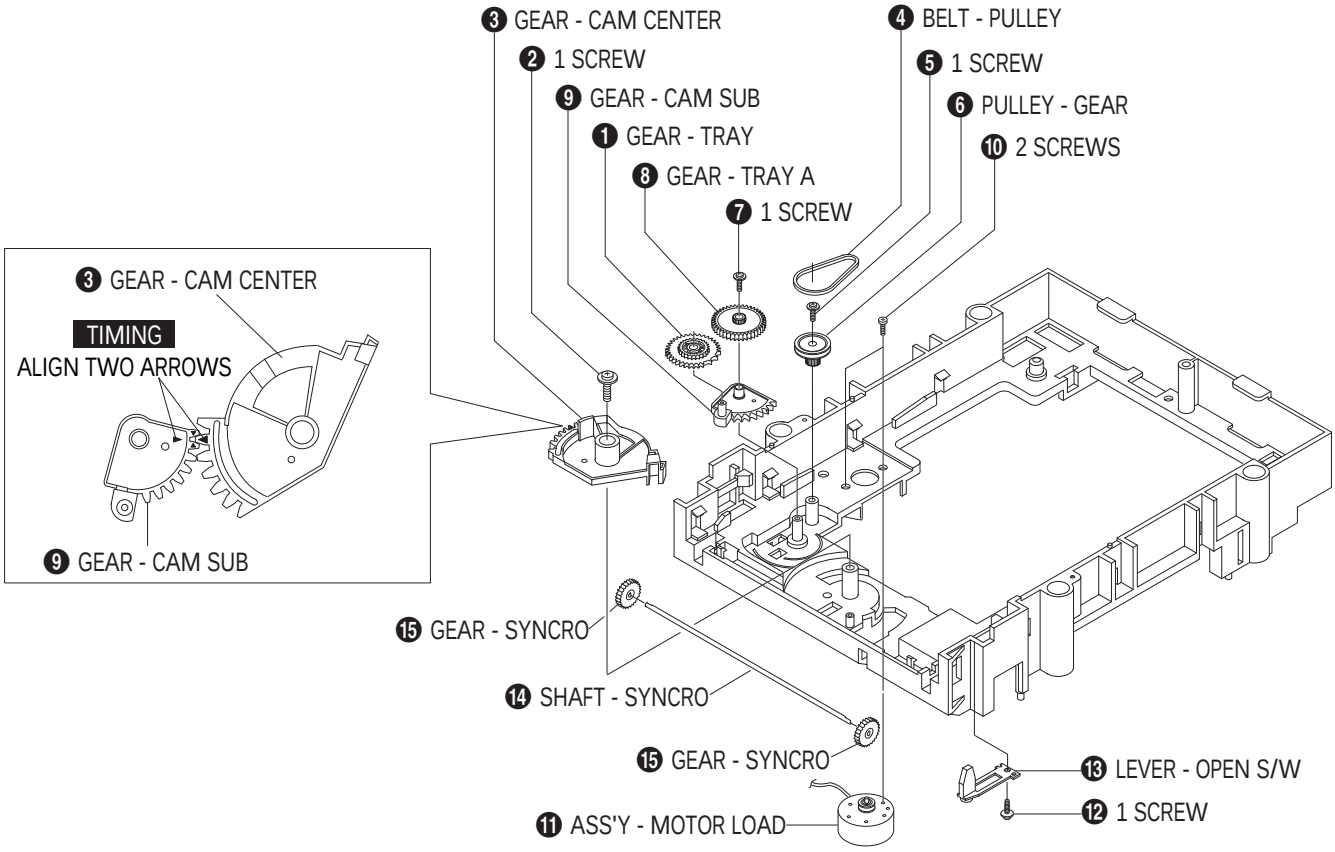



Fig. 5-15 Chassis-Main Parts Removal

### 5-4-4 Ass'y-Brkt Deck Removal

1) Remove 4 Screws ❶.
2) Lift up the Ass'y-Brkt Deck ❷.

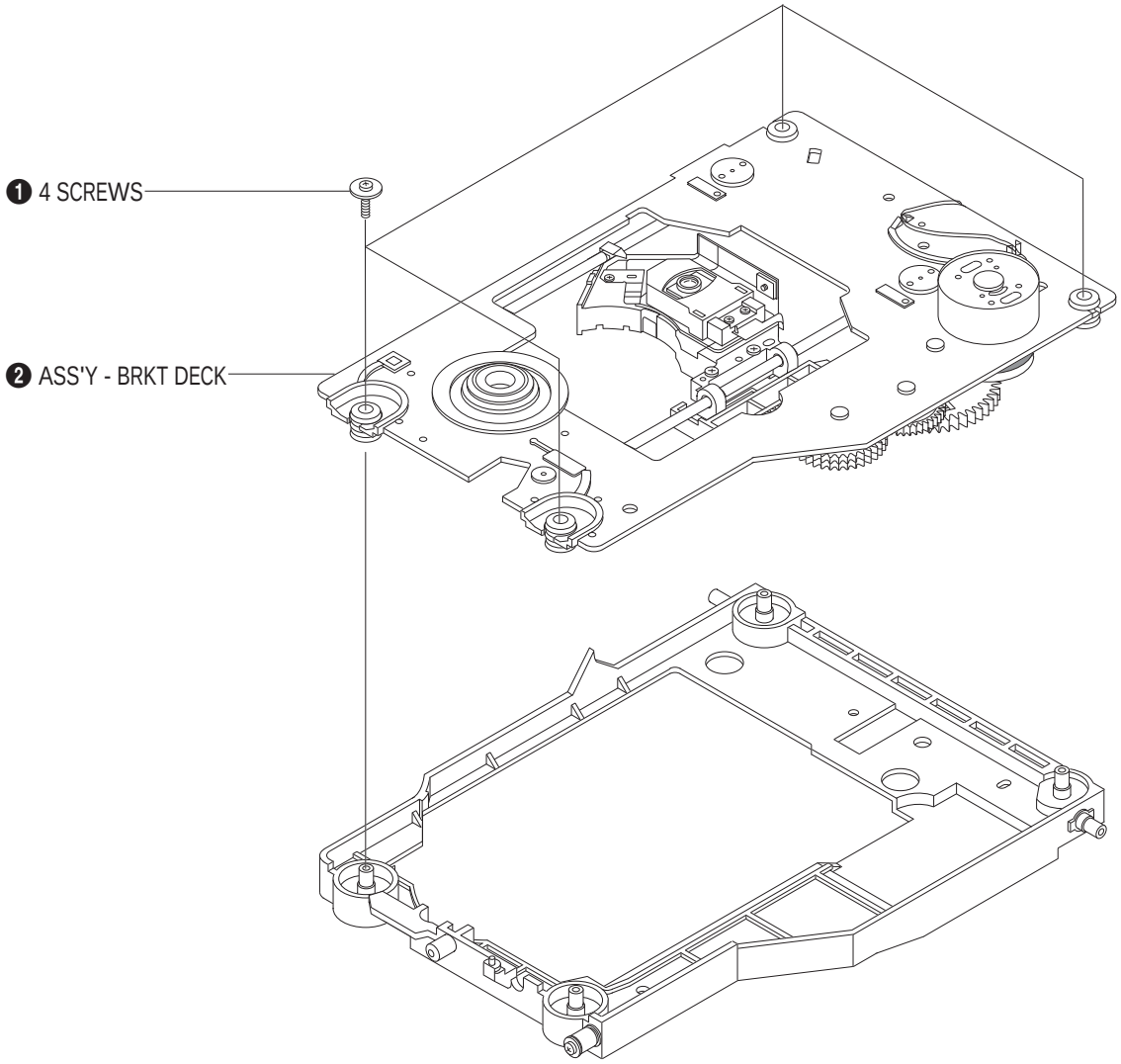



Fig. 5-16 Ass'y-Brkt Deck Removal

## 5-4-5 Ass'y- Deck Parts Removal

1) Remove 3 Screws ❶ and disassemble 3 Holder-Cams ❷.
2) Disassemble the Rack-Slide ❺ and Ass'y-Pickup ❻, 2 Screws ❹ while simultaneously removing the Shaft-P/U ❸.
3) Remove 3 Screws ❼ and disassemble the Ass'y-Motor Spindle ❽.
4) Remove the Washer-Plain ❾ and disassemble the Ass'y-Gear Feed AU/AL ❿.
5) Remove the Washer-Plain ⓫ and disassemble the Gear-Feed B ⓬.
6) Remove the Washer-Plain ⓭ and disassemble the Ass'y-Gear Feed CU/CL ⓮.

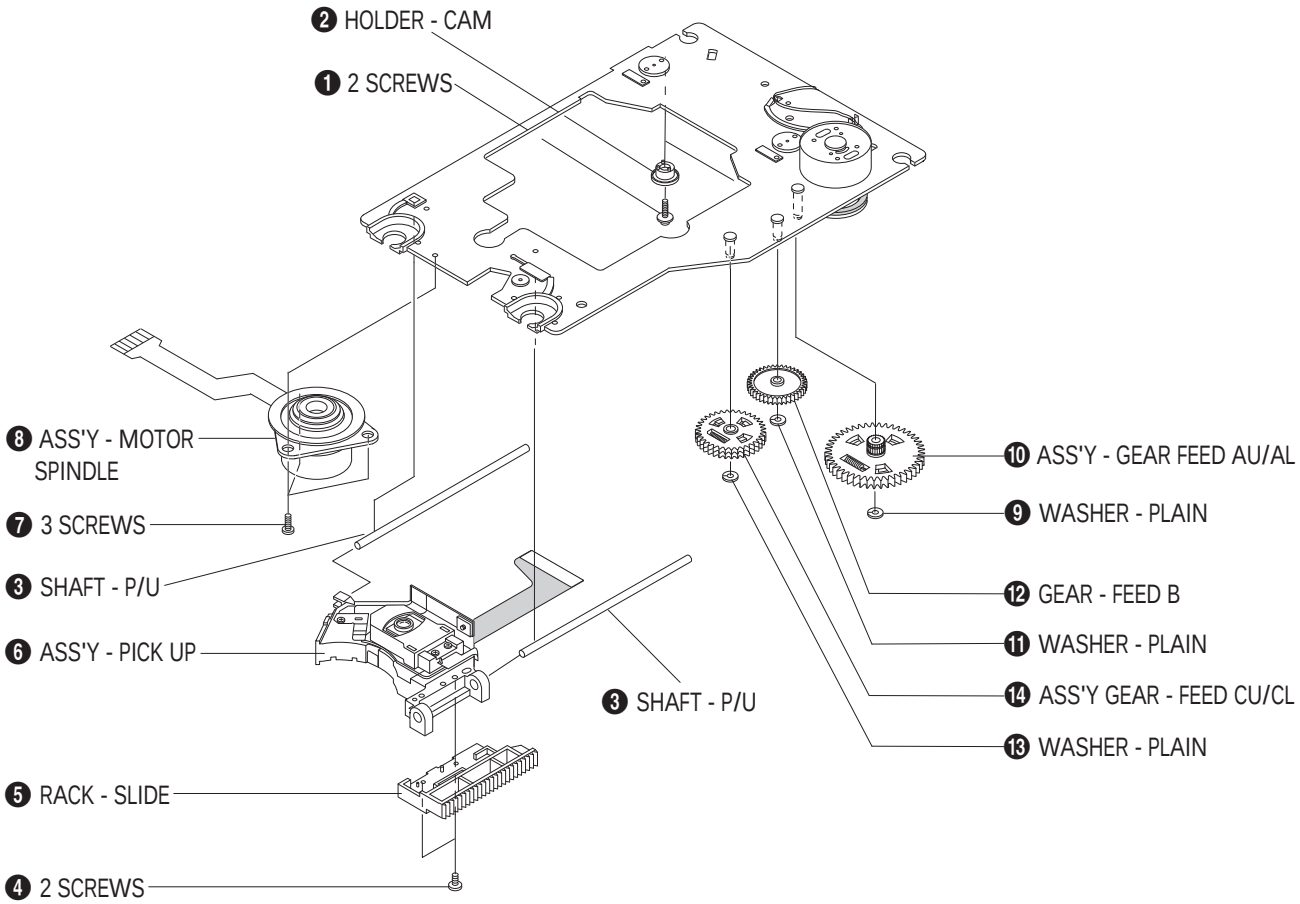

❷ HOLDER - CAM
❶ 2 SCREWS
❽ ASS'Y - MOTOR SPINDLE
❼ 3 SCREWS
❸ SHAFT - P/U
❻ ASS'Y - PICK UP
❺ RACK - SLIDE
❹ 2 SCREWS
❸ SHAFT - P/U
❿ ASS'Y - GEAR FEED AU/AL
❾ WASHER - PLAIN
⓬ GEAR - FEED B
⓫ WASHER - PLAIN
⓮ ASS'Y GEAR - FEED CU/CL
⓭ WASHER - PLAIN

Fig. 5-17 Ass'y- Deck Parts Removal

# MEMO

# 6. Circuit Descriptions

## 6-1 S.M.P.S.

### 6-1-1 Comparsion between Linear Power Supply and S.M.P.S.

6-1-1 (a) Linear

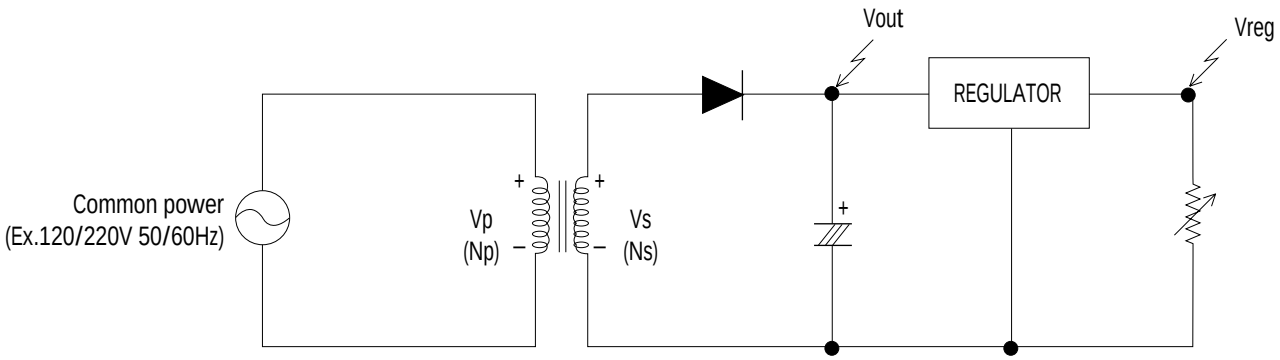



Fig. 6-1 Linear Power Supply

◆ Waveform/Description

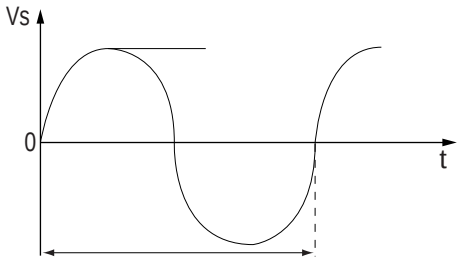



Fig. 6-2

Input : Common power to transformer (Vp).

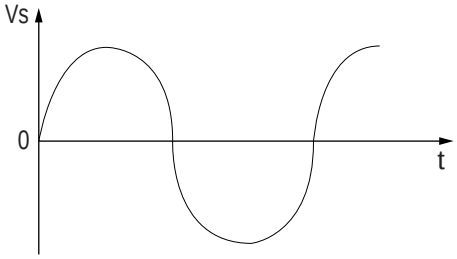



Fig. 6-3

The output Vs of transformer is determined by the ratio of 1st Np and 2nd Ns.
Vs = (Ns/Np) x Vp

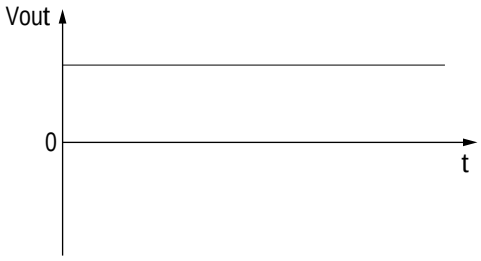



Fig. 6-4

Vout is output (DC) by diode and condensor.

◆ Advantages and disadvantages of linear power supply

1) Advantages : Little noise because the output waveform of transformer is sine wave.

2) Disadvantages :
- ❶ Additional margin is required because Vs is changed (depending on power source). (The regulator loss is caused by margin design).
- ❷ Greater core size and condensor capacity are needed, because the transformer works on a single power frequency.

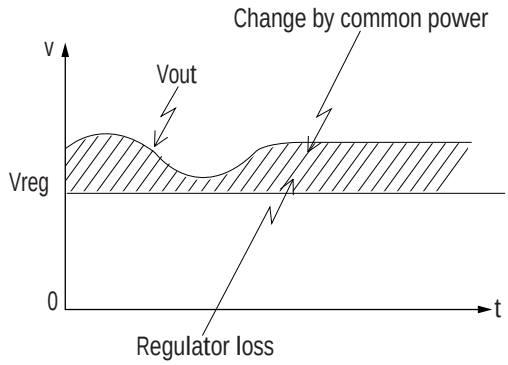



Fig. 6-5

6-1-1 (b) S.M.P.S. (Pulse width modulation method)

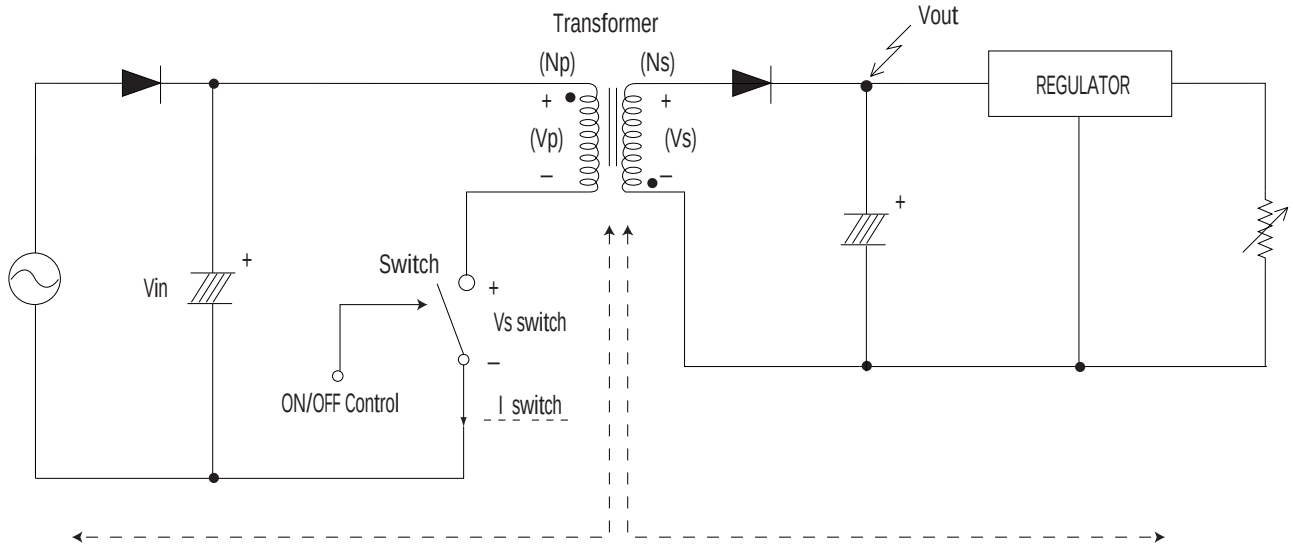



Fig. 6-6

◆ Terms

1) 1st : Common power input to 1st winding.
2) 2nd : Circuit followings output winding of transformer.
3) f (Frequency) : Switching frequency (T : Switching cycle)
4) Duty : (Ton/T) x 100

## 6-1-2 Circuit description (FLY-Back PWM (Plise Width Modulation) Control)

6-1-2 (a) AC Power Rectification/Smoothing Terminal

1) PD01,PD02,PD03,PD04 : Convert AC power to DC(Wave rectification)
2) PE3 : Smooth the voltage converted to DC(Refer to VIN of Fig. 6-7)
3) PC01, PC02, PC10, PC11, PC12, PC13, PL01, PL02, PL03 : Noise removal at power input/output
4) PVA1 : SMPS protection at power surge input (PVA1 pattern open is to remove noise)
5) PR10 : Rush current limit resistance at the moment of power cord insertion.
   ❶ Rush current = (AC input voltage x 1.414 - Diode drop voltage) / Pattern resistance + PL02,01 resistance + PC10 resistance + PR10) (AC230V based : approx. 26A)
   ❷ Without PR10, the bridge diode might be damaged as the rush current increases.

6-1-2 (b) SNUBBER Circuit : PR15, PR16, PC04, PC05, PD11, PR17

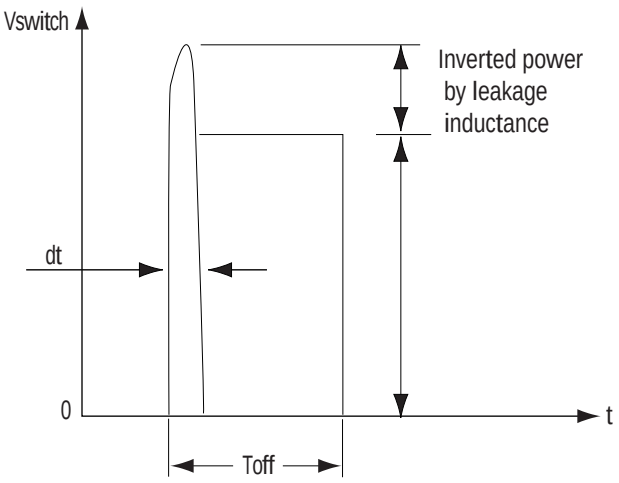



Fig. 6-7

1) Prevent residual high voltage at the terminals of switch during switch off/Suppress noise.
   High inverted power occurs at switch (PIC1) off, because of the 1st winding of transformer :
   (V= LI xdi/dt. LI : Leakage Induction)
   A very high residual voltage exists on both terminals of PIC1 because dt is a very short.

2) SNUBBER circuit protects PIC1 from damage through leakage voltage suppression by RC,
   (Charges the leakage voltage to PD11 and PC04, and discharges to PR15 and PR16).

3) PC05, PR17 : For noise removal

6-1-2 (c) PIC1 Vcc circuit

1) PR11, PR12, PR13, PR14 : PIC1 driving resistance (PIC1 works through driving resistance at power cord in)
2) PIC1 Vcc : PR18, PD12, PE6
   ❶ Use the output of transformer as Vcc, because the current starts to flow into transformer while PIC1 is active.
   ❷ Rectify to PD12 and smooth to PE6.
   ❸ Use the output of transformer as PIC1 Vcc : The loads are different before and after PIC1 driving.
   (Vcc of PIC1 decreases below OFF voltage, using only the resistance due to load increase after PIC1 driving.)

6-1-2 (d) Feedback Control Circuit

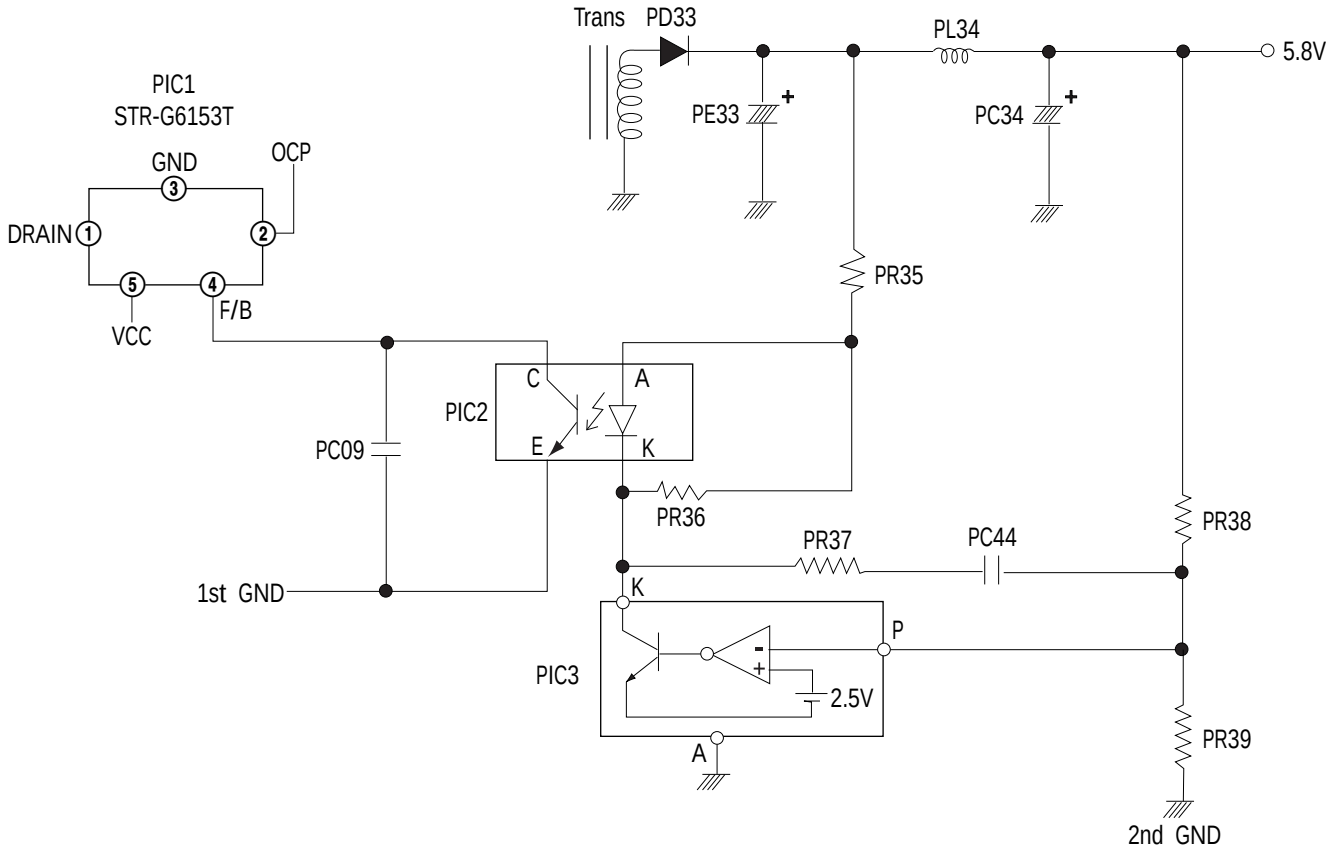



Fig. 6-8

1) F/B terminal of PIC1 determines output duty cycle.
2) C-E(Collector-Emitter) of PIC2 and F/B potential of PIC1 are same.

◆ Operation descriptions

1) Internal OP-Amp '+' base potential of PIC3 is 2.5V and external "-" input potential is connected with PR38 and PR39 to maintain Vout of 5.8V. (Vout = ((PR36 x PR39) / PR39) x 2.5V)
2) If load of 5.8 V terminal increases(or AC input voltage decreases) and Vout decreases below 5.8V, then :
   PIC3 'P' potential down below 2.5V --> PIC3 A-K of base current down --> PIC3 of A-K current down --> PIC2 Diode current down --> PIC2 C-E current down --> PIC2 C-E voltage up --> PIC1 F/B voltage up --> Out Duty up --> Transformer 1st current up --> Transformer 1st power up --> Vout up --> Maintain Vout 5.8V
3) If load of 5.8 V terminal decreases(or AC input voltage rises) and Vout rises above 5.8V, then :
   Reverse sequence of the above description --> Duty down --> Vout down --> Maintain 5.8V (i.e., the feedback to maintains 5.8V).
   ❶ PR35, PR36 : Reduce 5.8V overshoot
   ❷ PR37, PC44 : Prevent PIC3 oscillation(for phase correction)
   ❸ PC09 : Adjust feedback response rate

## 6-1-3 Internal Block Diagram

6-1-3 (a) Internal Block Diagram of S.M.P.S. Circuit

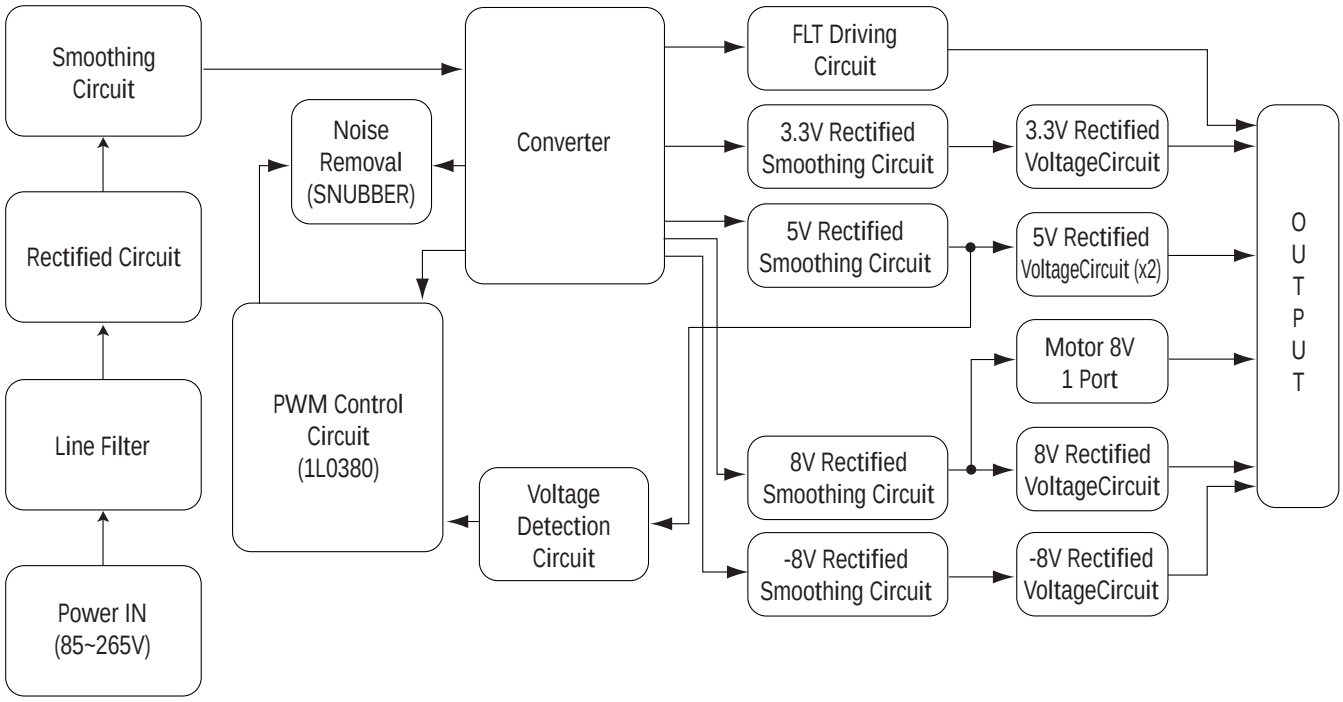



Fig. 6-9

6-1-3 (b) PIC1 (STR-G6153T) Internal Block Diagram

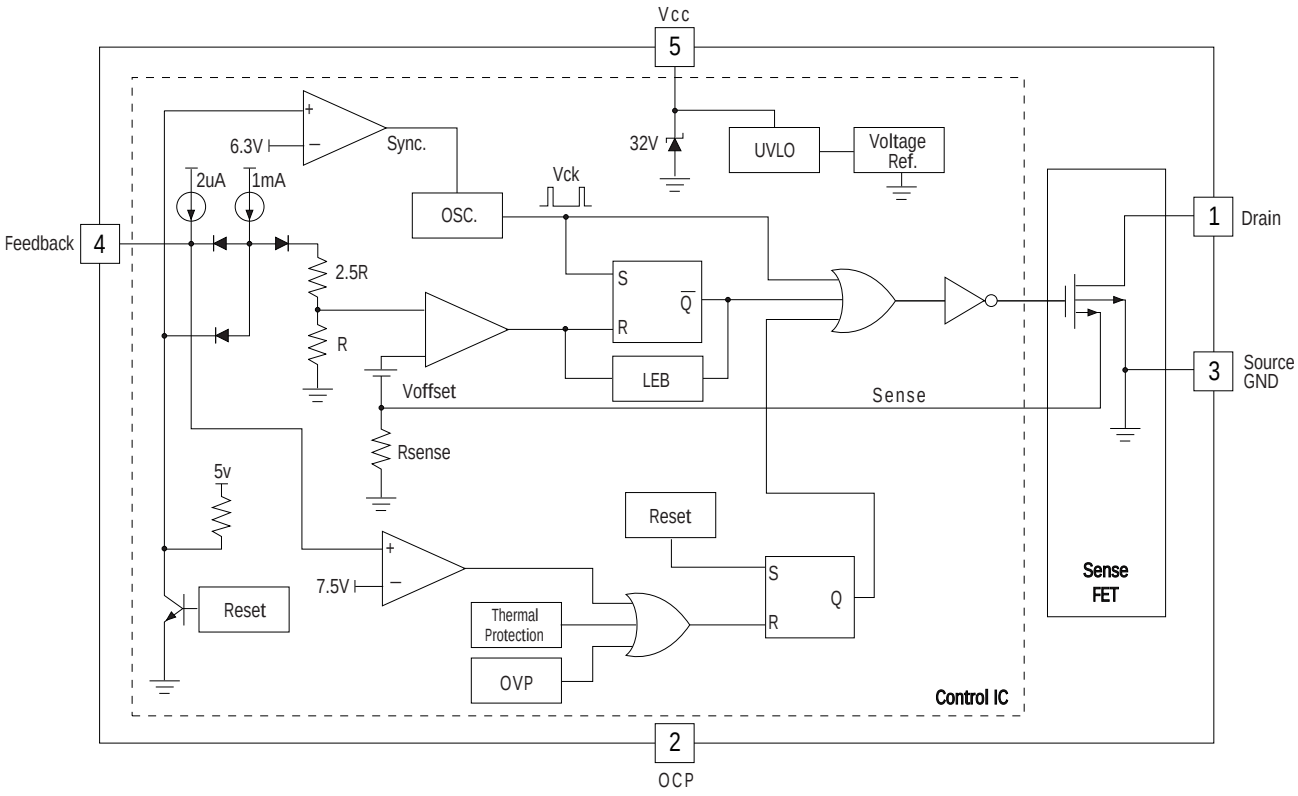



Fig. 6-10

# 6-2 RF

## 6-2-1 RIC1 (KS1461)

KS1461 is combined with KS1452 and KS1453 as bipolar IC developed for DVD SERVO system.
Main features include DVD waveform equalizing, CD waveform equalizing, focus error signal generation, 3-beam tracking error signal generation, DPD 1-beam tracking error, defect, envelope, MIRR output, etc. after receiving the pick-up output converted into I/V.

### 6-2-1 (a) Basic Potentiometer

KS1461 uses a single power method and each circuit is based on V of 2.5V.
V (Pin 12, 20, 24, 67) terminal is needed for IC, which uses the peripheral V.

### 6-2-1(b) RF signal

Fig. 6-11 shows the flow of signal generated by the pick-up.
A, B, C, D signals detected from pick-up are converted in to RF signal(A+B+C+D) via RF summing AMP.

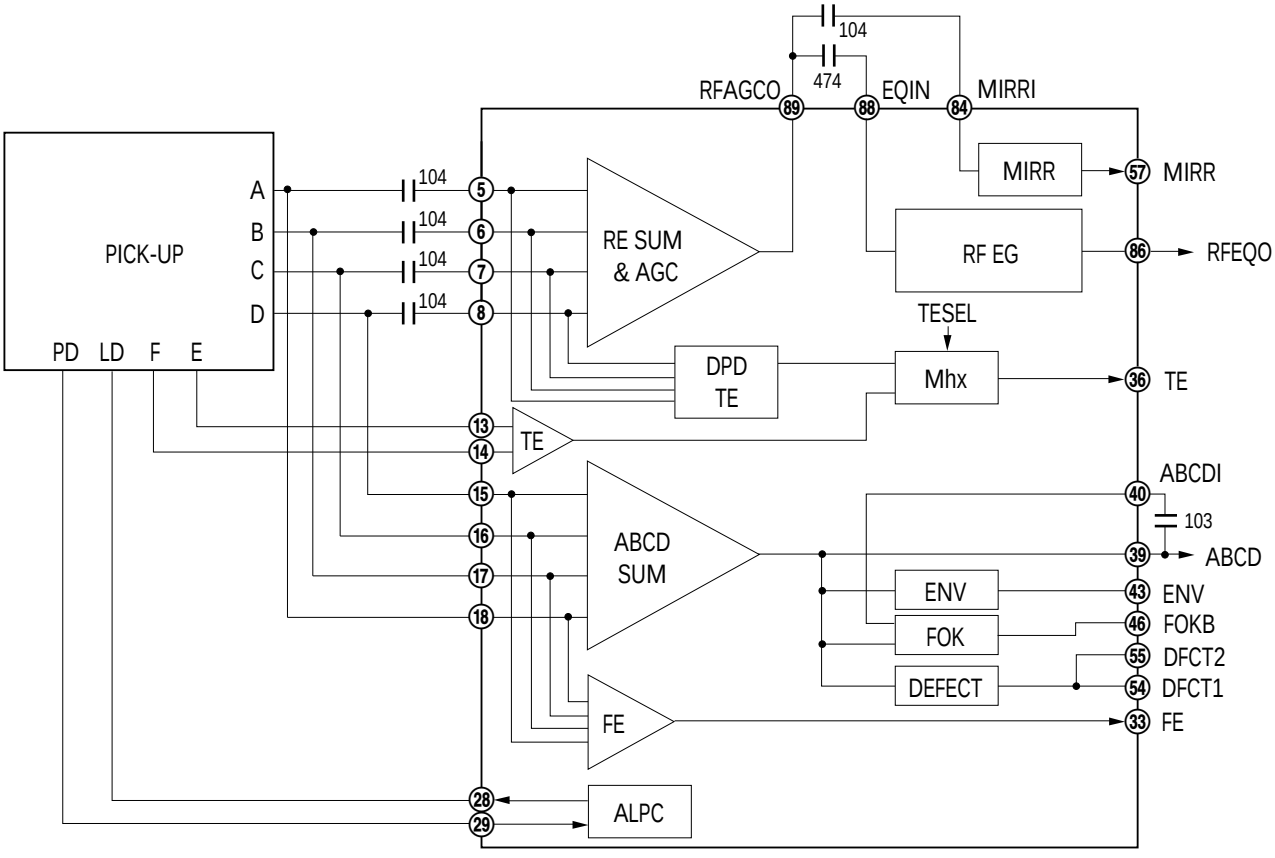



Fig. 6-11

Fig. 6-12 shows the waveform-equalizing block diagram for the RF signal.
It outputs to EQout (Pin 86) terminal by initially changing switching AMP gain of DVD and CD, and then adjusting the level in RF SUM & AGC. It controls RF SUM & AGC gain by means of Pin 89-95 and interfaces with PWM signal, (output from PWM terminal of KS1453, via low-pass filter to adjust boost gain and peak frequency.
EQout terminal is connected with EQin (Pin 86).

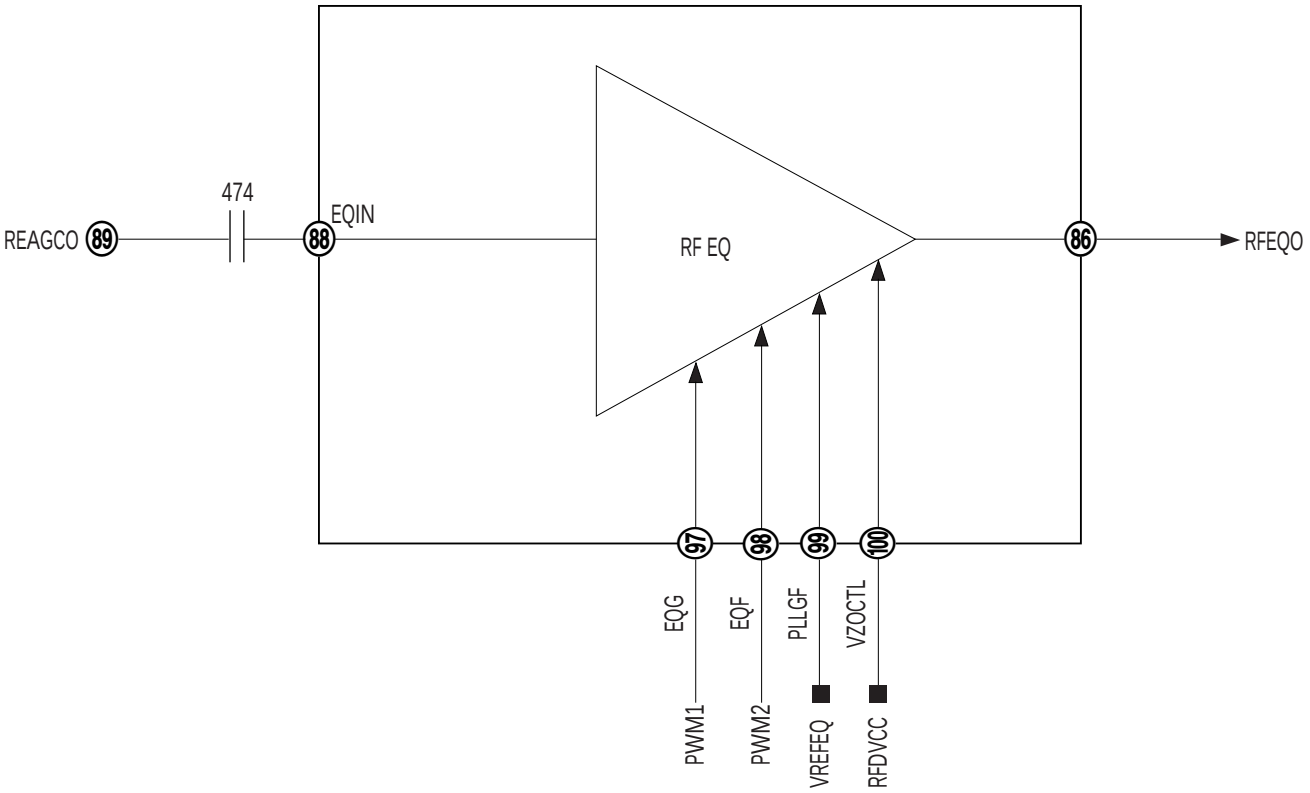



Fig. 6-12

The control parameters of DVD EQ and CD EQ are as follows.

1) DVD CD EQ control parameter

❶ EQG (Pin 97) : Changes the gain of peak frequency with EQ frequency characteristic. Convert PWM signal, output from KS1453, into DC via low-pass filter.

❷ EQF (Pin 98) : Changes the peak frequency with EQ frequency characteristic. Convert PWM signal, output from KS1453, into DVD via low-pass filter.

# 6-3 System Control

## 6-3-1 Outline

The main micom peripheral circuit is composed of 16bit Micom (MIC1 ; TMP93CM41F), 8M EPROM (MIC8 ; AM27-C080) for Microcode and data save, 512 byte EE-PROM (MIC5 ; KS24C020) for permanent storage of data needed at power off, MIC4 (74AC573) to latch only address in the bus where address and data are mixed, address decoder (MIC7 ; 74HC00) for selection of ex-ternal device chip and 20MHz clock oscillator for micom operation. The Micom (MIC1 ; TMP93CM41F) mounted in main board analizes the key commands of front panel or instructions of remote control through communication with Micom (FIC1 ; LC86P6232) of front and controls the devices on board to execute the corresponding commands after initializing the devices connected with micom on board at power on.

## 6-3-2 Block Diagram

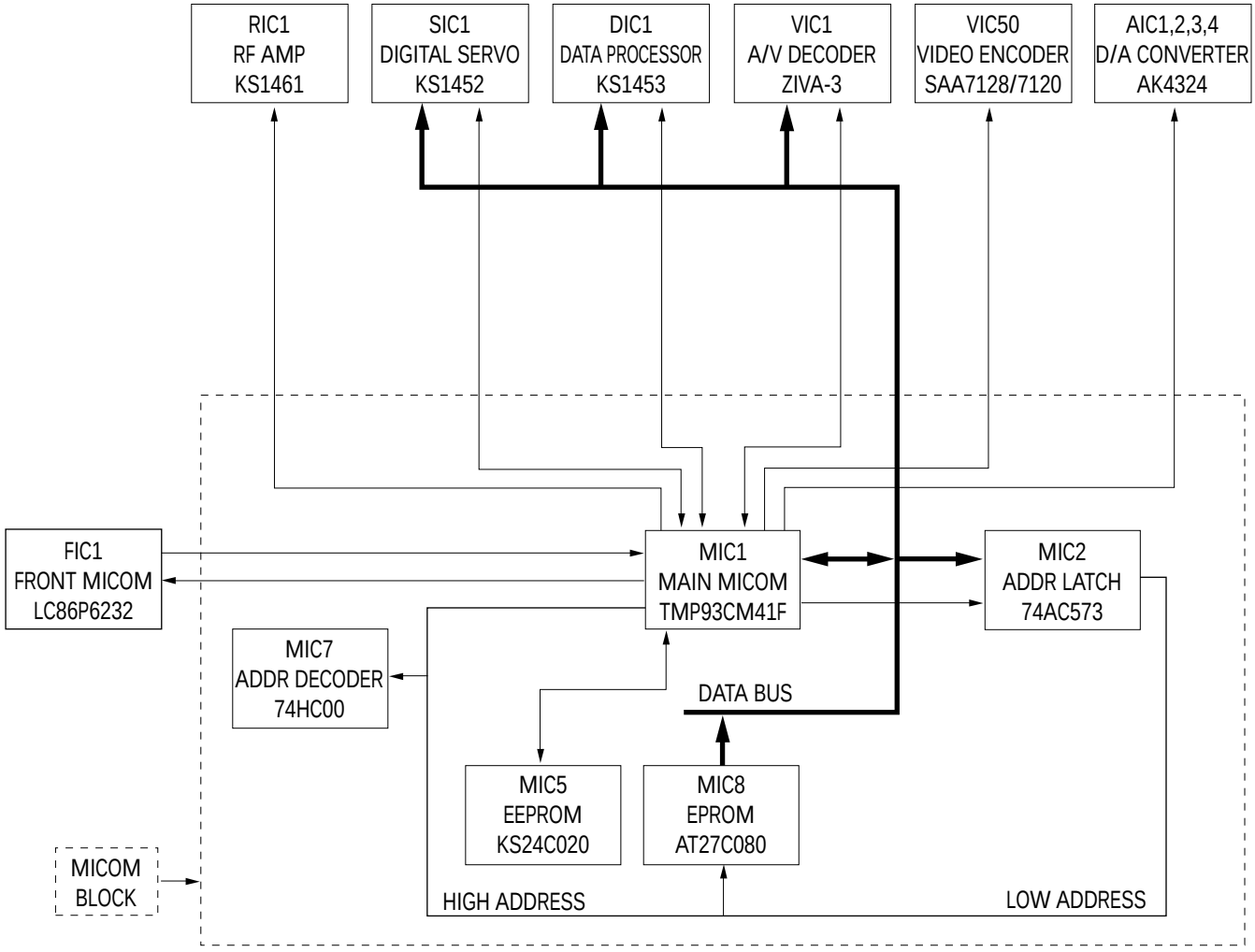



Fig. 6-13

### 6-3-3 Waveform Description

When micom accesses each device sharing bus, it falls the chip select signal of corresponding chip to (CS2:MIC8-22, /DSPCS:DIC1-2, /DVDCS:VIC1-206/SRVCS:SIC1-10) 0 (Low) before trial.
So to speak, the bus is used by time-division as shown in Fig 6-14, 6-15, 6-16.
Two and more devices can't be accessed simultaneously.

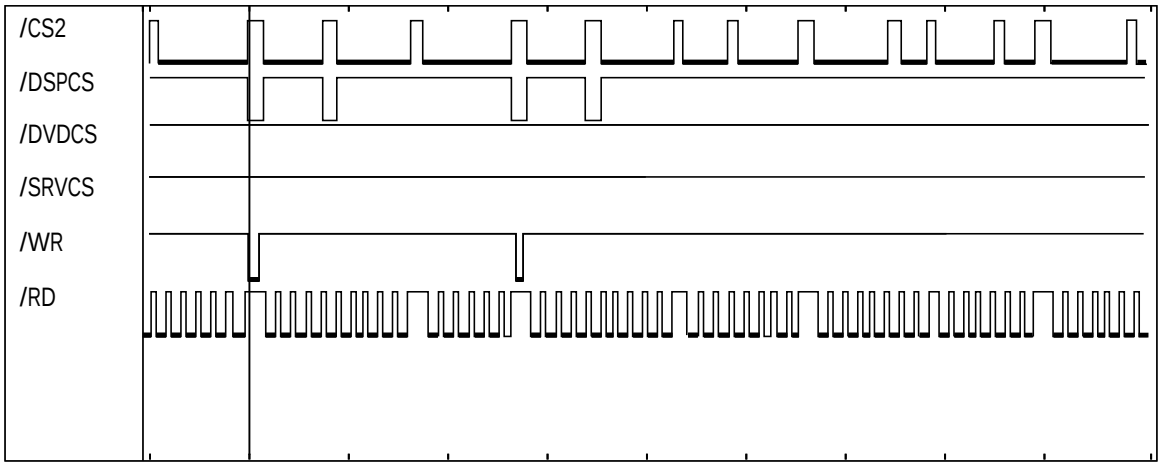



Fig. 6-14

- CH1 : CS2 (MIC8-22, EPROM CHIP SELECT)
- CH2 : DSPCS (DIC1-2, DATA PROCESSOR CHIP SELECT)
- CH3 : DVDCS (VIC1-206, A/V DECODER CHIP SELECT)
- CH4 : SRVCS (SIC1-10, DIGITAL SERVO CHIP SELECT)
- CH5 : WR (MIC1-73, MICOM OUTPUT WRITE SIGNAL)
- CH6 : RD (MIC1-72, MICOM OUTPUT READ SIGNAL)

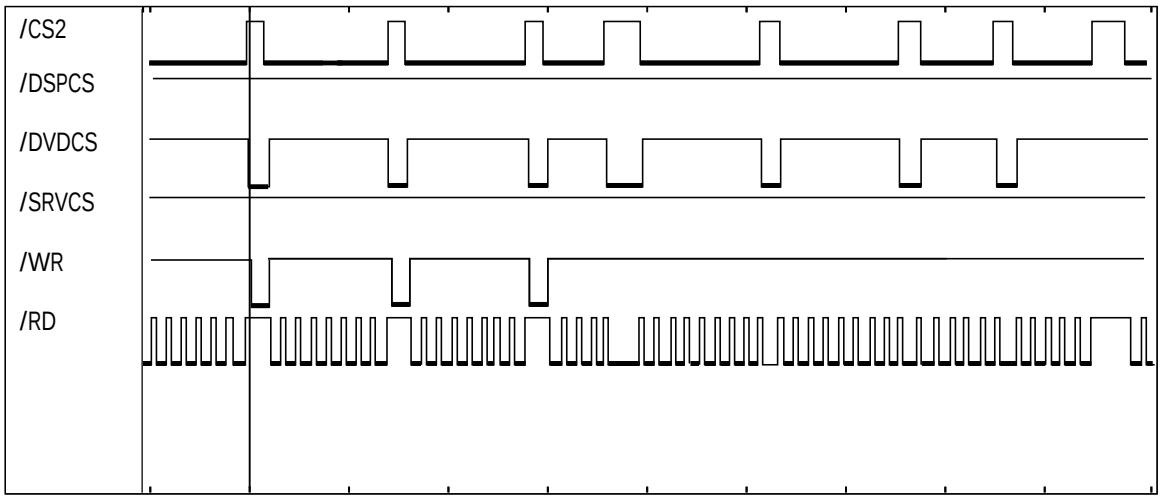



Fig. 6-15

- CH1 : CS2 (MIC8-22, EPROM CHIP SELECT)
- CH2 : DSPCS (DIC1-2, DATA PROCESSOR CHIP SELECT)
- CH3 : DVDCS (VIC1-206, A/V DECODER CHIP SELECT)
- CH4 : SRVCS (SIC1-10, DIGITAL SERVO CHIP SELECT)
- CH5 : WR (MIC1-73, MICOM OUTPUT WRITE SIGNAL)
- CH6 : RD (MIC1-72, MICOM OUTPUT READ SIGNAL)

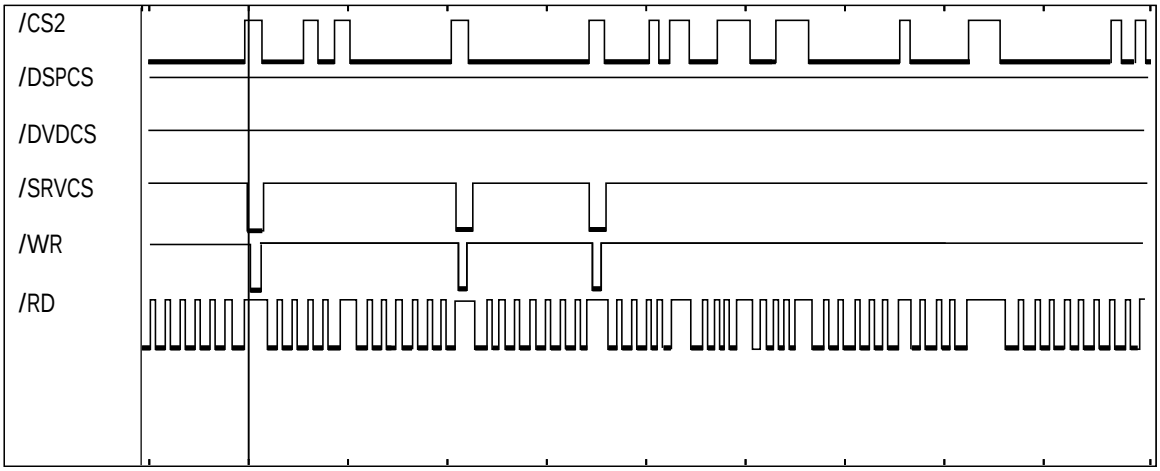



Fig. 6-16

- CH1 : CS2 (MIC8-22, EPROM CHIP SELECT)
- CH2 : DSPCS (DIC1-2, DATA PROCESSOR CHIP SELECT)
- CH3 : DVDCS (VIC1-206, A/V DECODER CHIP SELECT)
- CH4 : SRVCS (SIC1-10, DIGITAL SERVO CHIP SELECT)
- CH5 : WR (MIC1-73, MICOM OUTPUT WRITE SIGNAL)
- CH6 : RD (MIC1-72, MICOM OUTPUT READ SIGNAL)

# 6-4 Servo

## 6-4-1 Outline

SERVO system of DVD is divided into Focusing SERVO, Tracking SERVO, SLED Linked SERVO and CLV SERVO (DISC Motor Control SERVO).

1) Focusing SERVO
   Focuses the optical spot output from object lens onto the disc surface. Maintains a uniform distance between object lens of Pick-up and disc (for surface vibration of disc).

2) Tracking SERVO
   Make the object lens follow the disc track in use of tracking error signal (created from Pick-up).

3) SLED Linked SERVO
   When the tracking actuator inclines outwardly as the object lens follows the track during play, the SLED motor moves slightly (and counteracts the incline).

4) CLV SERVO (DISC Motor Control SERVO)
   Controls the disc motor to maintain a constant linear velocity (necessary for RF signal).

## 6-4-2 Block Diagram

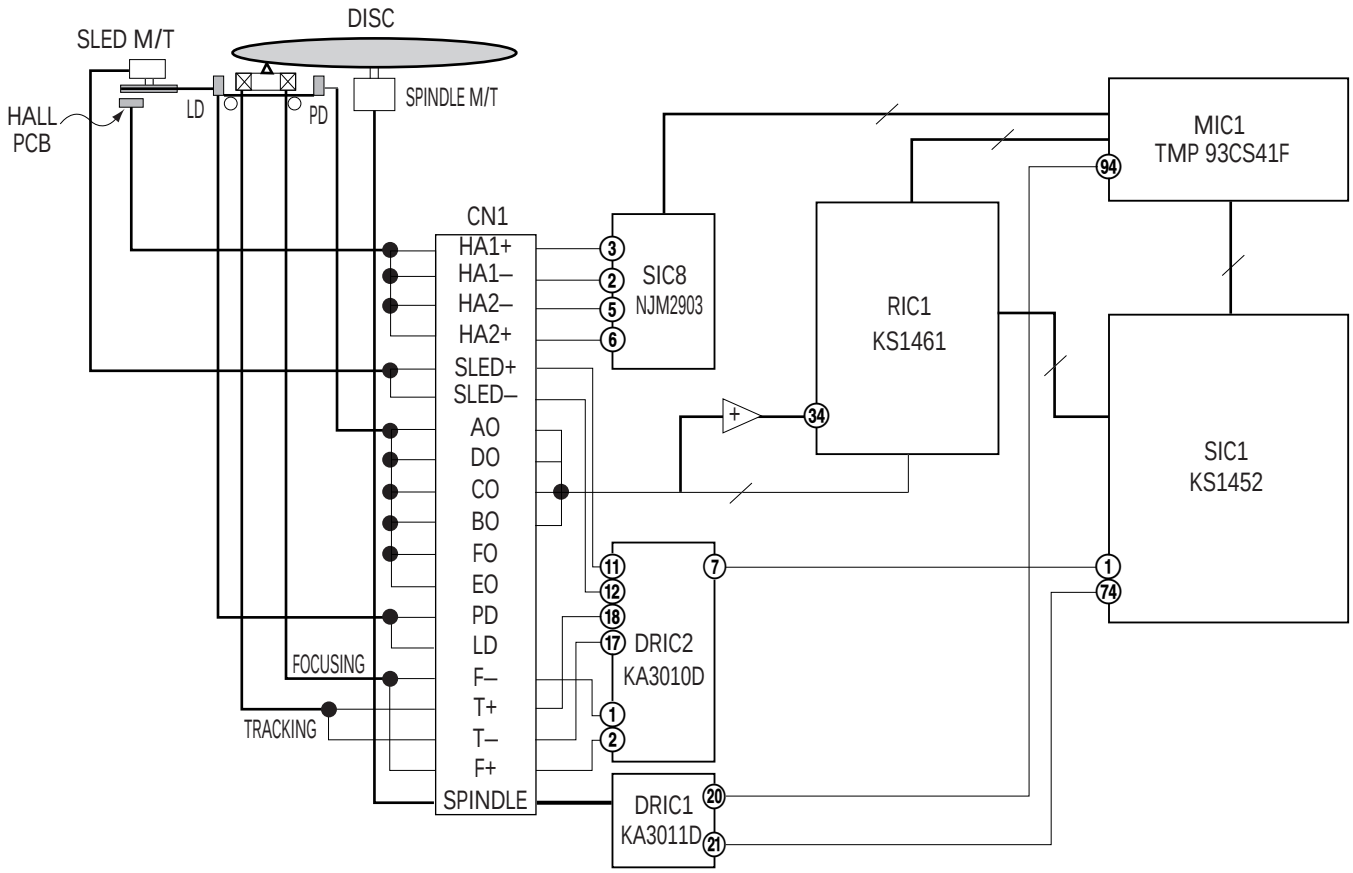



Fig. 6-17

## 6-4-3 Operation

1) FOCUSING SERVO

(1) FOCUS INPUT

The focus loop is changed from open loop to closed loop, and the triangular waveform moves the object lens up and down (at pin 75 of SIC1 during Focus SERVO ON.) At that time, S curve is input to pin 65 of SIC1.

ABAD (pin 39 of RIC1) signal, summing signal of PD A, B, C, D, is generated, and zero cross(2.5V) point occurs when S curve is focused and ABAD signal exceeds a preset,constant value. The focus loop is changed to closed loop, and the object lens follows the disc movement, maintaining a constant distance from the disc. (these operations are same in CD and DVD).

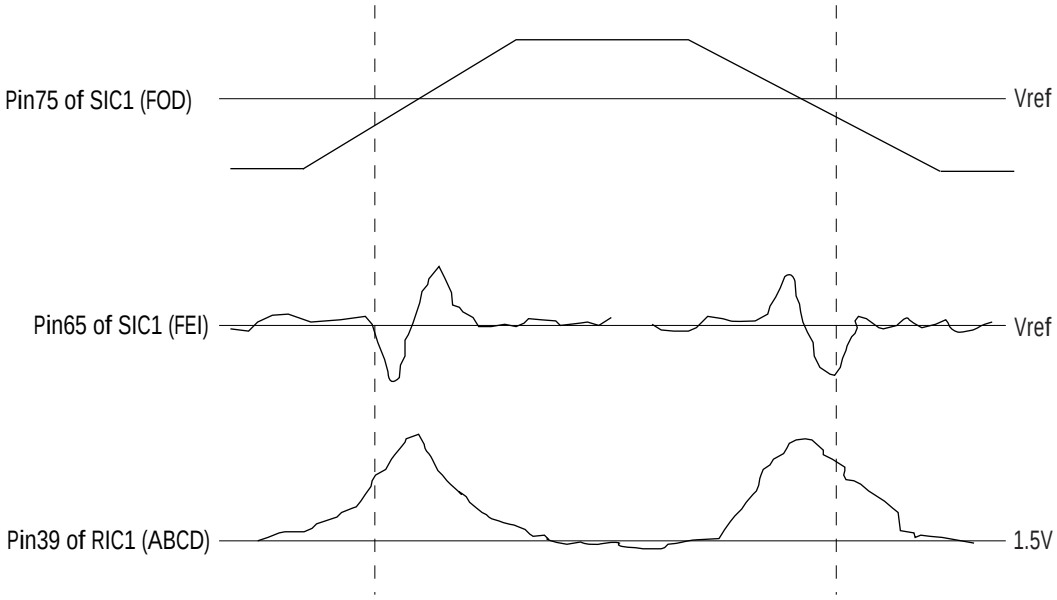



Fig. 6-18

(2) PLAY

When focus loop closes the loop during focus servo on, both pin 65 and pin 75 of SIC1 are controlled by VREF voltage (approx. 2.5V), and pin 1, 2 of DRIC2 are approximately 4.5V.

2) TRACKING SERVO

(1) NORMAL PLAY MODE

❶ For DVD

Composite : The signal output from PD A, B, C, D of Pick-up, the tracking error signal (pin36 of RIC1) uses the phase difference of A+C and B+D in RIC1, and inputs to terminal 64 of SIC1. Then, it is output to SIC1 pin 76 via digital equalizer, and applied to the tracking actuator through DRIC2.

Pins 17, 18 of SIC1 are controlled by VREF(approx. 2.5V) during normal play.

Meanwhile, DVD repeats the track jump from 1 to 4 in inner direction at normal play (because data- read speed from disc is faster than data output speed on screen).

❷ For CD, VCD

Receive the signal output through E, F of Pick-up, from RIC1. The tracking error signal is similar to DVD.

(2) SEARCH Mode :

Search mode : Fine seek,(Moving the tracking actuator slightly little below 255 track) and coarse search, moving much in use of sled motor. The coarse search will be described in sled linked servo and now, the fine seek is explained shortly.
If the object lens is located near target, cut off the tracking loop and give the control signal as many as desired count to move the tracking actuator via SIC1 pin 76 terminal(TRD).

3) SLED LINKED SERVO

- Normal play mode
  Move SLED motor slightly by means of PWM signal in SIC1 pin 73, as the tracking actuator moves along with track during play. Control to move the entire Pick-up as the tracking actuator moves.

- Coarse serach mode
  In case of long-distance search (such as chapter serach), SIC1 uses sled FG (SIC8 pin 1, 7, which is generated) by rotation of sled motor via hall PCB. Then, read ID and compute the existing track count after input of next track. If the existing track count is within fine seek range, tracking begins using fine seek.

4) CLV SERVO(DISC MOTOR CONTROL SERVO)

Input RF signal (from Pick-up) to SIC1 pin59. Detect SYNC signal from RF in SIC1, and output PWM signal to SIC1 pin 55 for constant linear velocity.

# 6-5 DVD Data Processor

## 6-5-1 Outline

DIC1(KS1453) performs Sync detection, EFM/EFM demodulation and error correction and Spindle motor control (CLV control) after inputting sliced EFM signal of RF signal at disc playback and EFM read clock (PLCK) signal generated from PLL. Outputs data which converted to the last audio and video from A/V decoder(VIC1). KS1453 uses external memory(4M DRAM) as buffer as well as for error correction and carries out Variable Bit Rate transfer function. VBR function uses the external buffer as buffer to absorb the difference of transfer rate occurring because the transfer rate of disc playback is faster than data transfer rate demanded by A/V decoder(Video/Audio Signal Process Chip).
In case of general disc refresh, the memory is almost filled up periodically. It is because Write rate to memory after disc playback and signal process is faster than Read of A/V decoder. When the memory is filled, this status is reported by interrupt to main micom, which controls the servo to kick back the pick-up to the previous track after memorizing the last data read from disc until now. It takes some times to jump to the previous track and return to the original(jump location) again. The memory will have an empty space because A/V decoder reads out data of memory.
When the memory has an empty space, where data can be processed and written and the pick-up correctly gets to the original location(before kick back location) again, it reads data again avoids the interrupt of data read previously. The basic operation repeats to perform as described above.

## 6-5-2 Block Diagram

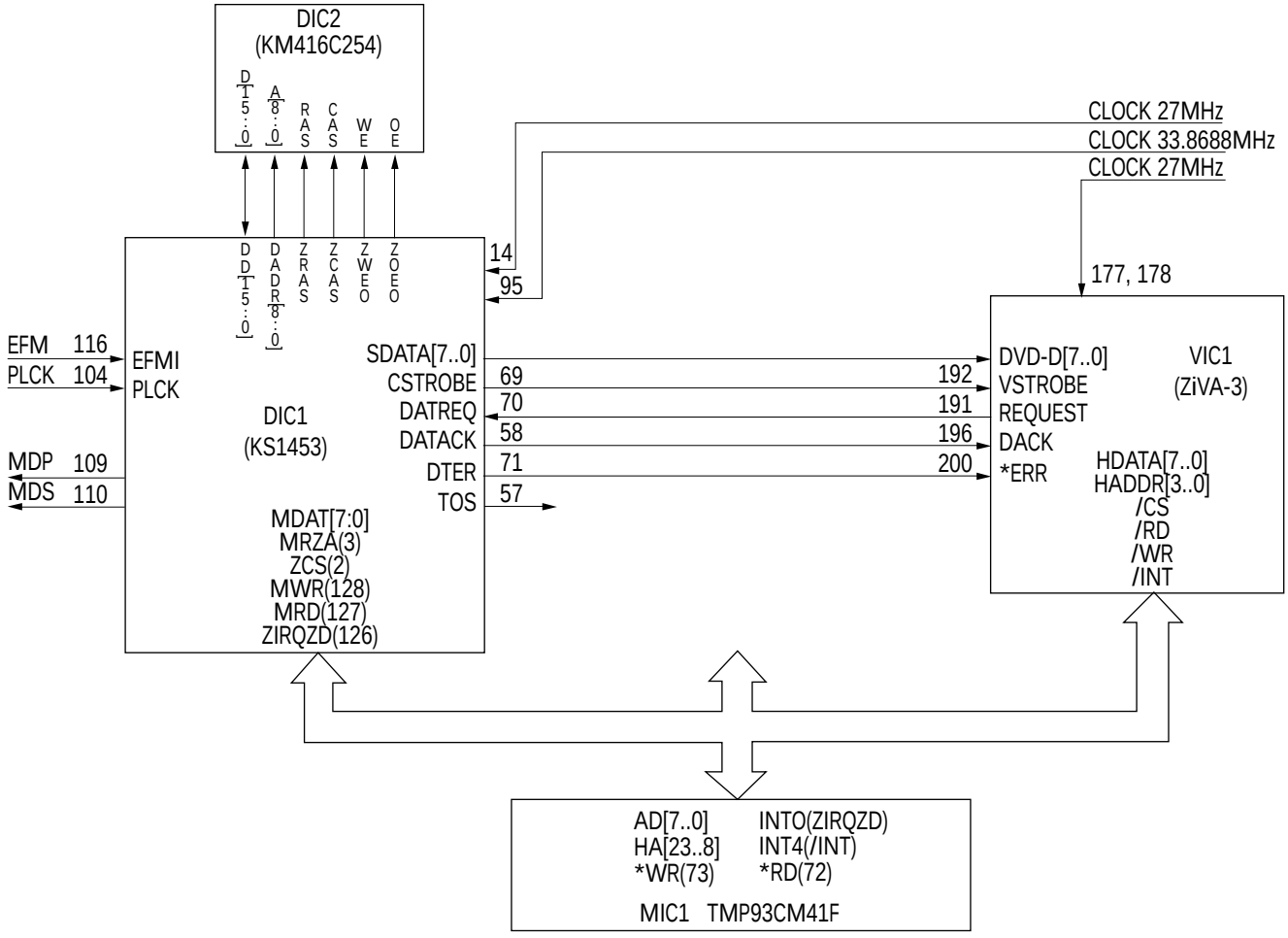



Fig. 6-19

### 6-5-3 Waveform Description

It measures the timing that data processed in DIC1 at DVD playback.

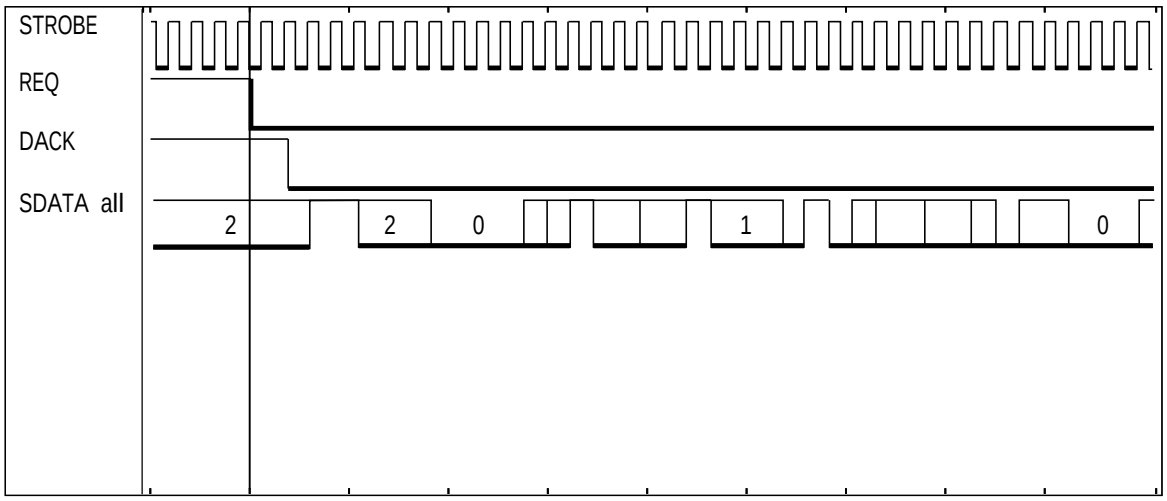



Fig. 6-20

- CH1 : STROBE (DIC1-69, CLOCK)
- CH2 : REQ (DIC1-70, DATA REQUEST)
- CH3 : DACK (DIC1-58, DATA ACKNOWLEDGE)
- CH4 : SDATA (DIC1-60~67, DATA)

# 6-6 Video

## 6-6-1 Outline

VIC50 sends VSYNC and HSYNC from VIC1(A/V decoder) and receives 8bit video data.
VIC50 does RGB encoding, copy guard processing and D/A conversion of 8bit video data inputted from VIC1(A/V decoder) by control of MIC1(Micom).
Video signal converted into analog signal is outputted via amplifier of analog part.

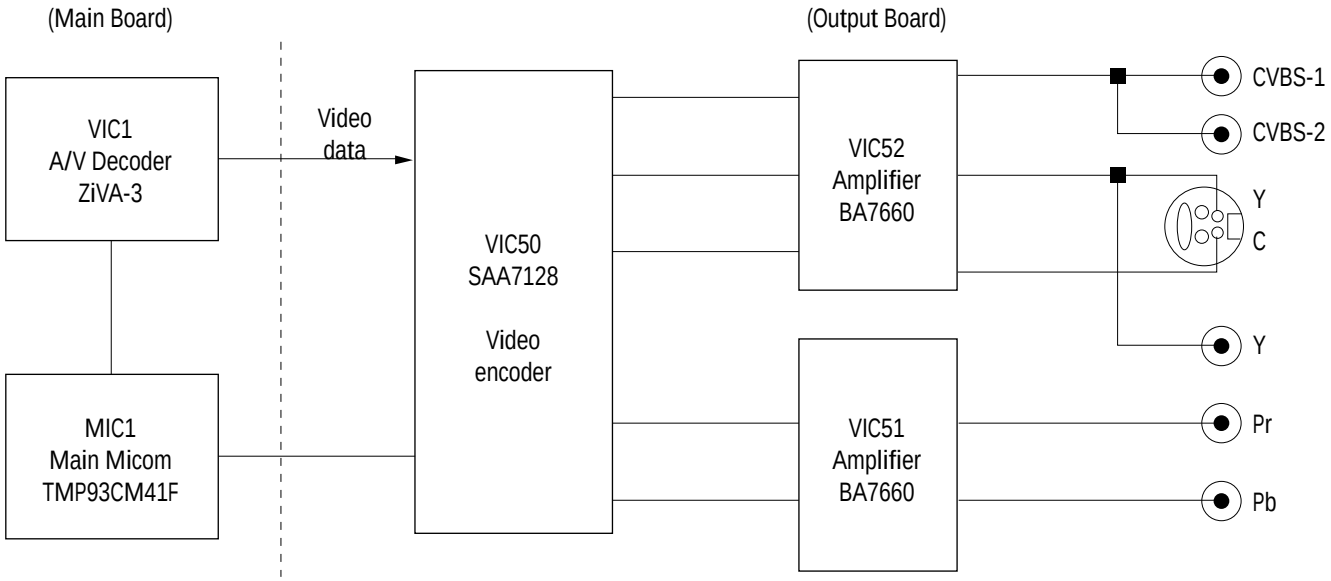



Fig. 6-21 Video Output Block Diagram

## 6-6-2 NTSC/PAL Digital Encoder (VIC50 : SAA7128)

VIC50 inputted from pin4 with 27MHz generates HSYNC and VSYNC which are based on video signal. Each HSYNC and VSYNC outputted from Pin8 and Pin7 are inputted to Pin157 and Pin158 of A/V decoder VIC1(ZIVA-3). VIC1 is the synchronous signals with the video signal and control the output timing of 8bit video signal of ITU-R601 format. (Pin180, 182, 184 ~ 189 (MSP))
8bit data is inputted to Pin9(MSB) and Pin16 of VIC50 and the inputted data is demuxed with each 8bit of Y/R-Y/B-Y. The separate signal is encoded to NTSC or PAL by control of MIC1. The above signals, that is CVBS (Composite Video Burst Synchronized)(Pin30), S-Video (Y:Pin27, C:Pin24), Y/Pb/Pr(Pin27/Pin29/Pin23) and GB(Pin26/Pin29/Pin23). In course of encoding, 8bit data can extend to 10bit or more. To convert the extended data to quantization noise as possible, VIC50 adopts 10bit D/A converter. VIC50 perform video en-coding as well as copy protection.

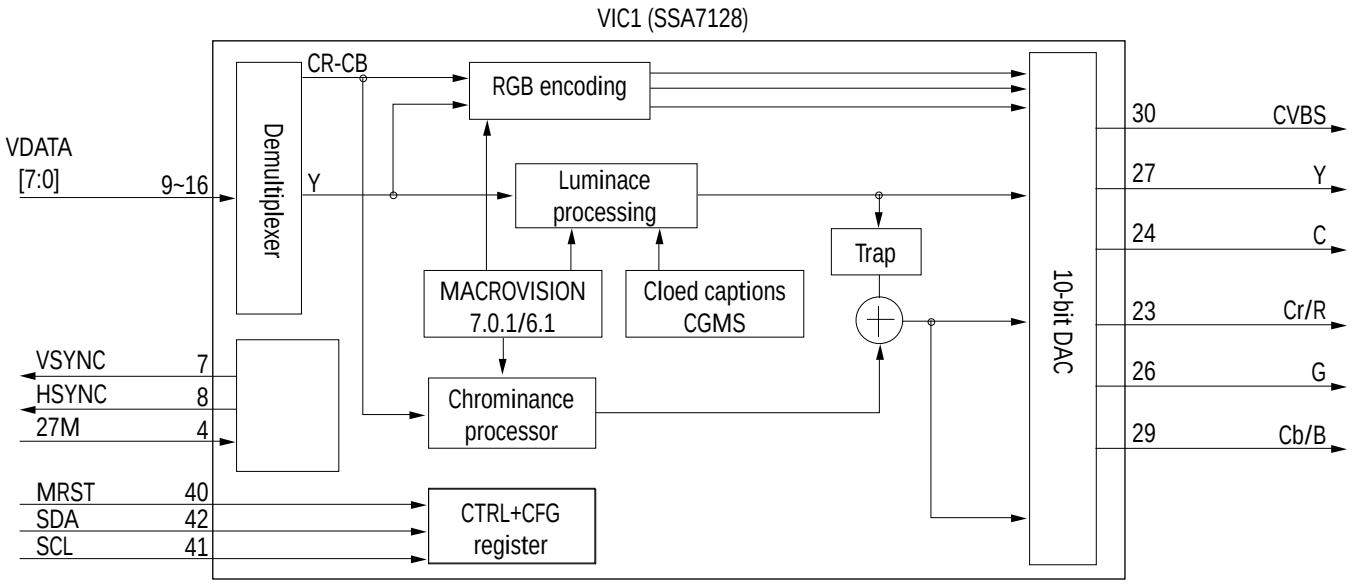



Fig. 6-22

## 6-6-3 Amplifier (VIC51, VIC52 : BA7660)

VIC51 and VIC52 are 6dB amplifier. Based on CVBS signal, the final output level must be 2Vpp without 75ohm terminal resistance. Because the level of video encoder output is only 1.1Vpp, the level is adjusted with the special amplifier. When mute of pin1 is high active, if the pin is floating and connected to power, the output signal is never outputted. CVBS, Y, C, Cr and Cb outputted from video encoder are inputted to VIC52 (Pin7, Pin2 and Pin4) and VIC51 (Pin7 and Pin4) respectively and outputted from VIC52 (Pin10, Pin15 and Pin13) and VIC51 (Pin10 and Pin 13). Pin9, Pin12 and Pin14 of VIC51 and VIC52 are feedback pin to SAG compensation(DC characteristic compensation of signal). Resistance(VR3-VR14) which is inserted to input terminal is bias resistance for input offset. The signal to which gain is adjusted by amplifier is outputted from jack via 75ohm.

## 6-6-4 Scart Jack Output

The AV1 of scart jacks is used for connecting a TV or other display devices and the AV2 for a VCR or other players. When the DVD player is turned on, the RGB, CVBS, or S-VIDEO is outputted to AV1 and CVBS to AV2. When the player is turned off, CVBS signal of the TV is inputted and CVBS or RGB of a VCR inputted via AV2 is outputted. In case of AV2, the reverse signal flow to that.
Switching of power on/off is controlled by SCIC1, SCIC2, and SCIC5.
The control signal (Pin 9,10,11) of SCIC1 and SCIC2 is outputted from PIN100 of FIC1 and connected to the signal(Pin 4) inverted by FIC3.
The control signal(Pin 9,10,11) of SCIC5 is also outputted from Pin100 of FIC1 and inverted again by SCQ8.
According to the characteristics that SCART Jack is supplied same pins for the output of CVBS signal and Y signal and for the R signal and C signal, SCIC3 lets the user select two signals in setup menu.
This control signal (Pin 9,10,11) of the switch is outputted from Pin 92 of FIC1.
The signal selected by switch is amplified by SIC4 and SIC6 and outputted through the SCART jack.
The scart jack has the function select signal (Pin 8 of AV1) that the TV can select automatically RF and the external video signal.
SCQ1 to SCQ7 are the circuit to point, FIC1 (Pin100, 94) controls. When the TV aspect ratio is 4/3 or 16/9, it is outputted 4.5 ~ 7V or 9.5 ~ 12V each. But, when the DVD video source is 16/9 and 16/9 wide is selected in setup menu, 4.5 ~ 7V is outputted. Otherwise, 9.5 ~ 12V is outputted.
When the player is turned off, the TV works with function selection by output signal of VCR in relation of SCQ9 and SCQ10.
RGB control signal (Pin 16 of AV1) is outputted that the TV can select between RGB and CVBS.
SCQ11 ~ SCQ14 and SCQ17 are for RGB control and controlled by FIC1 (Pin91).
When the player is turned off, receives VCR input (Pin 37 of AV2) and buffers in this circuit and then outputs to Pin 16 of AV1.

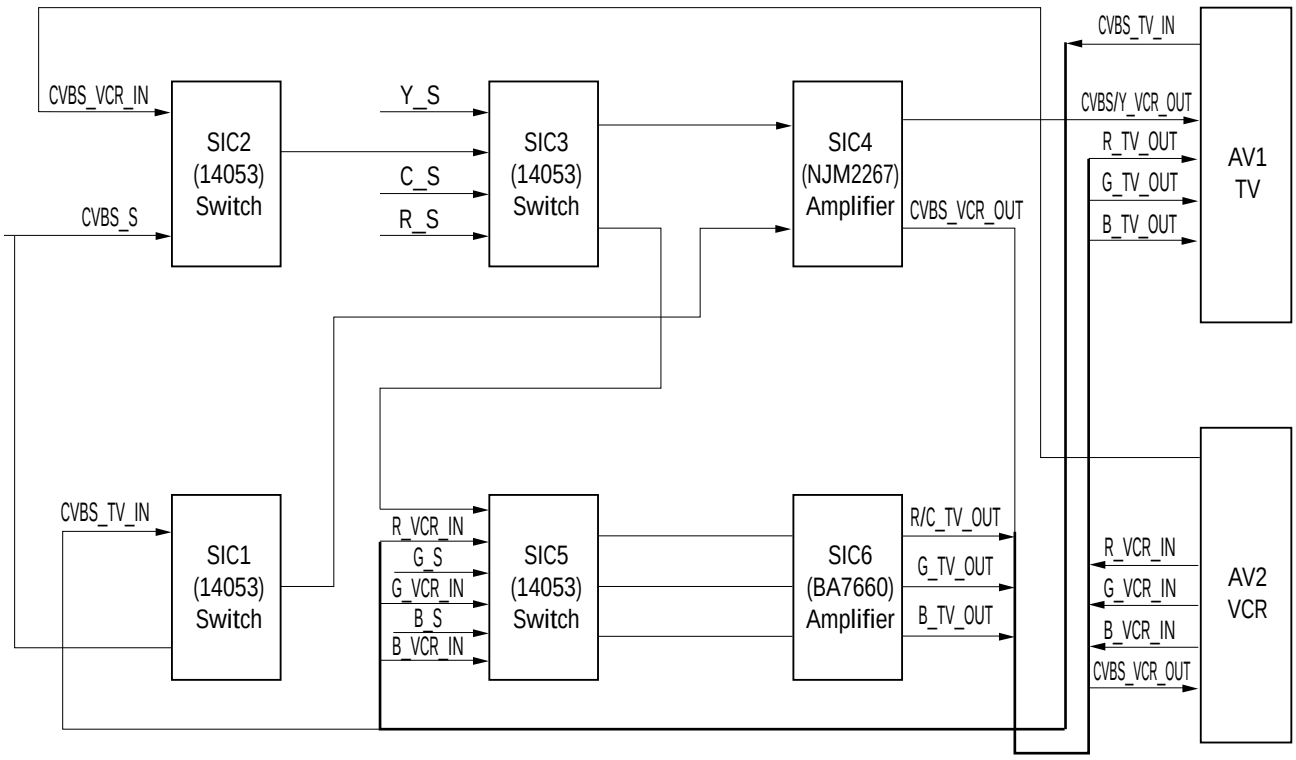



Fig. 6-23

# 6-7 Audio

## 6-7-1 Outline

The four data (Data 0~3) outputted from A/V decoder (VIC1 ; ZiVA-3) are supplied to DATA 0 for 2-channel mixed audio output and to DATA 1~3 for Analog audio output (5.1-channel).
The audio data (0~3) transmitted from A/V decoder (VIC1 ; ZiVA-3) are converted into analog signal via audio D/A converter and outputted via post filter and amplifier.
CD and VCD are outputted with only 2 channels audio data and transmit them to Data 0 and Data 1.
Front L/R channel is outputted in mixed audio output (L/R output) and analog audio output and surround L/R, center and subwoofer aren't outputted.
If DVD of 2 channels source disc is used, it is outputted by the same way with CD and VCD.
If 5.1-channel source disc, front L/R channel is outputted in Data 1, Surround L/R in Data 2 and Center/Subwoofer in Data 3. At that time, 5.1 channel can be downmixed in 2 channel in Data 0.

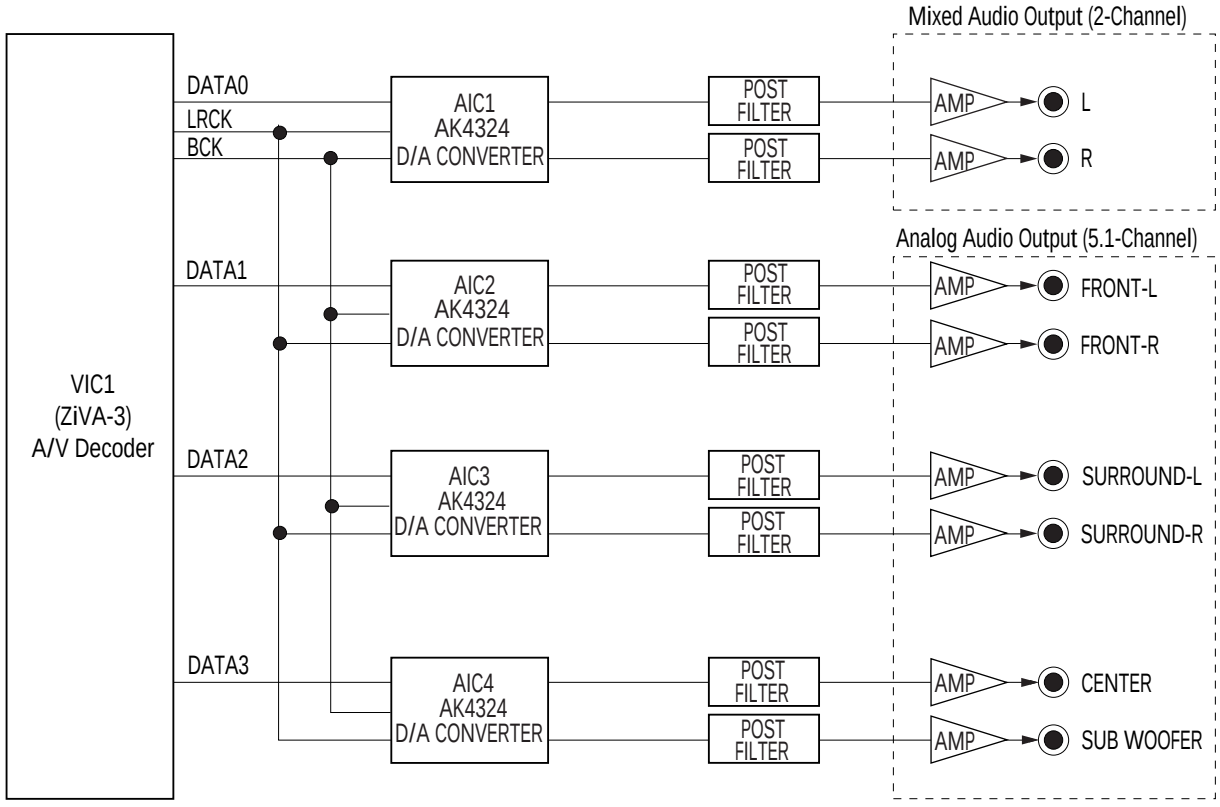



Fig. 6-24 Audio Output Block Diagram

## 6-7-2 DVD Audio Output

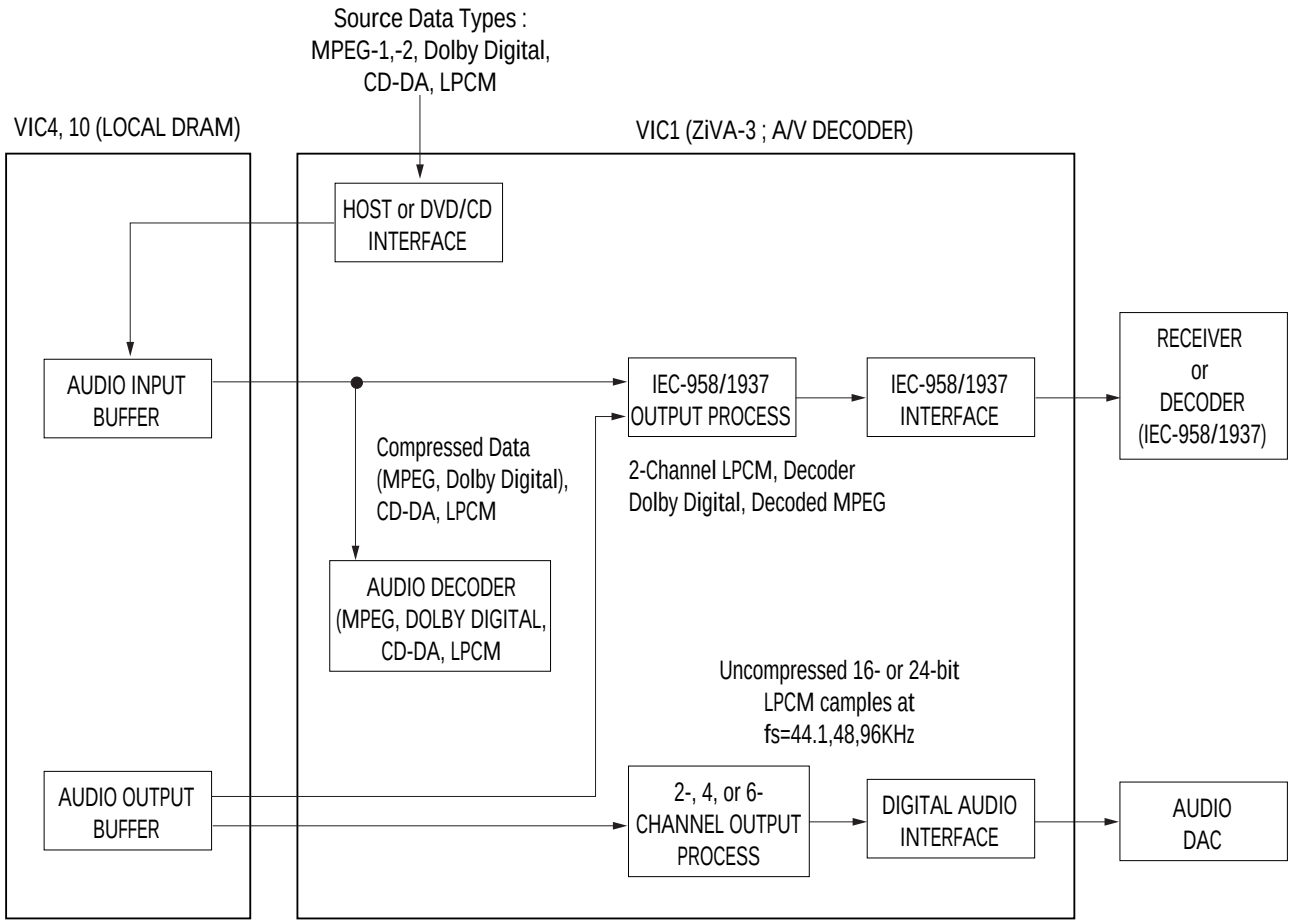


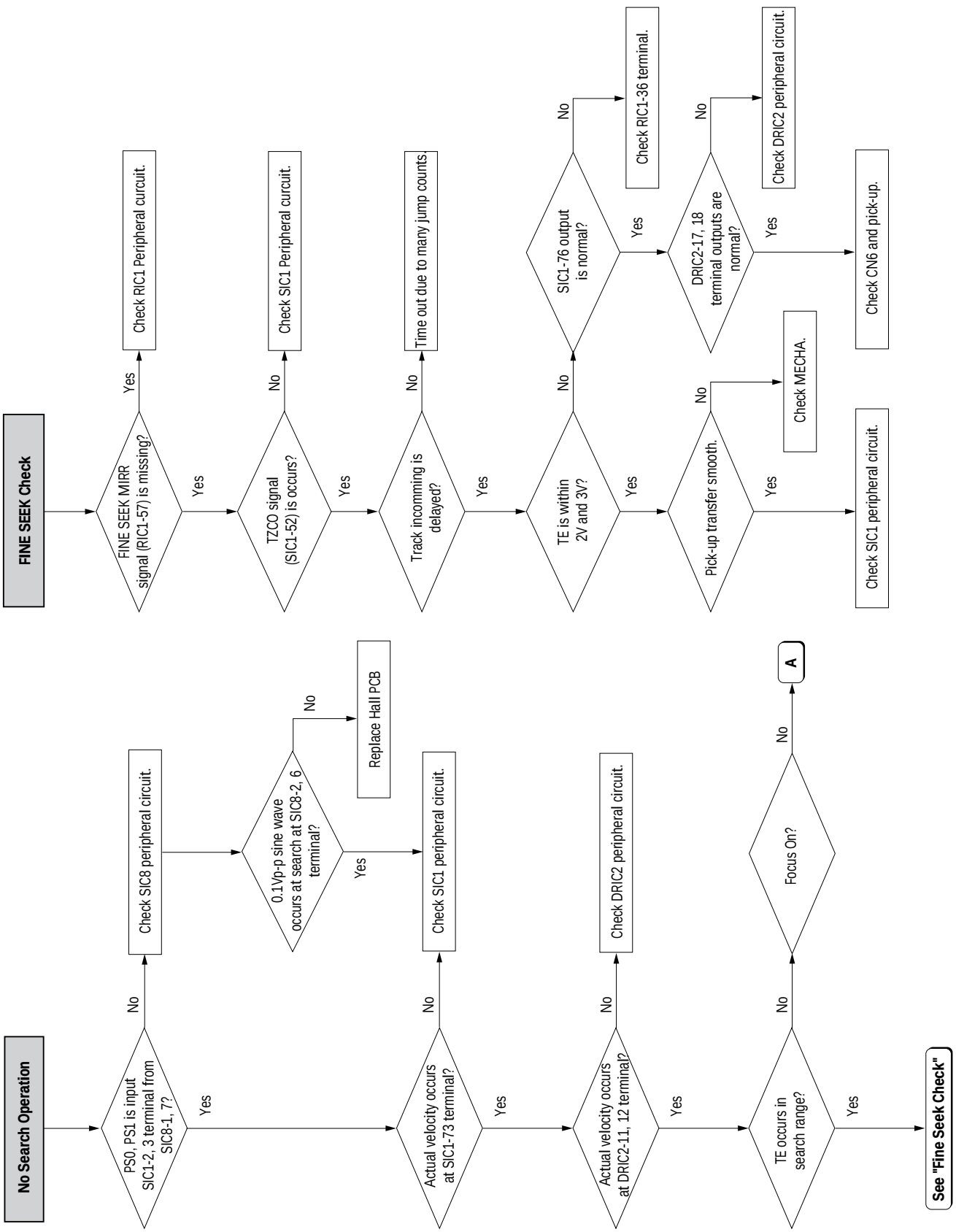

Fig. 6-25 Audio Decoder and Output Interface Datapath

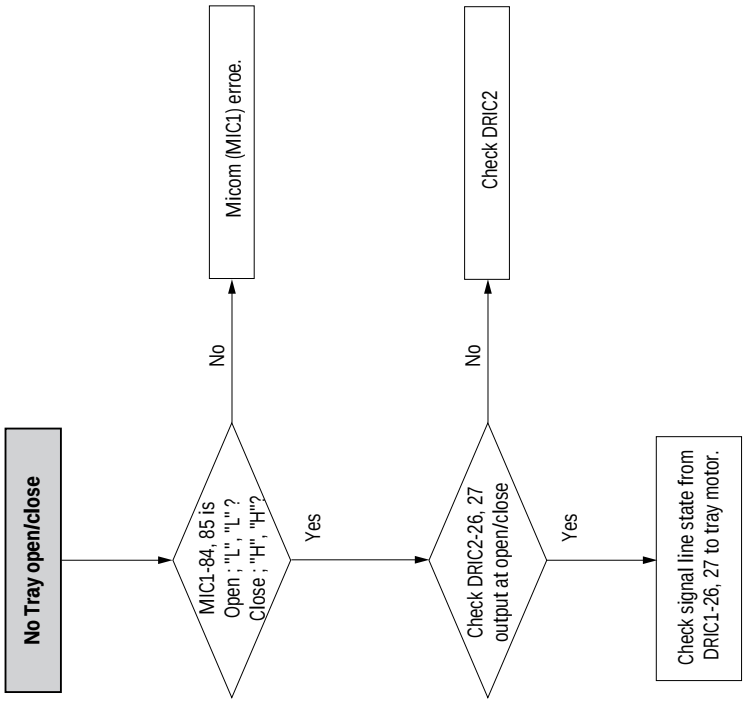
1) Compressed Data

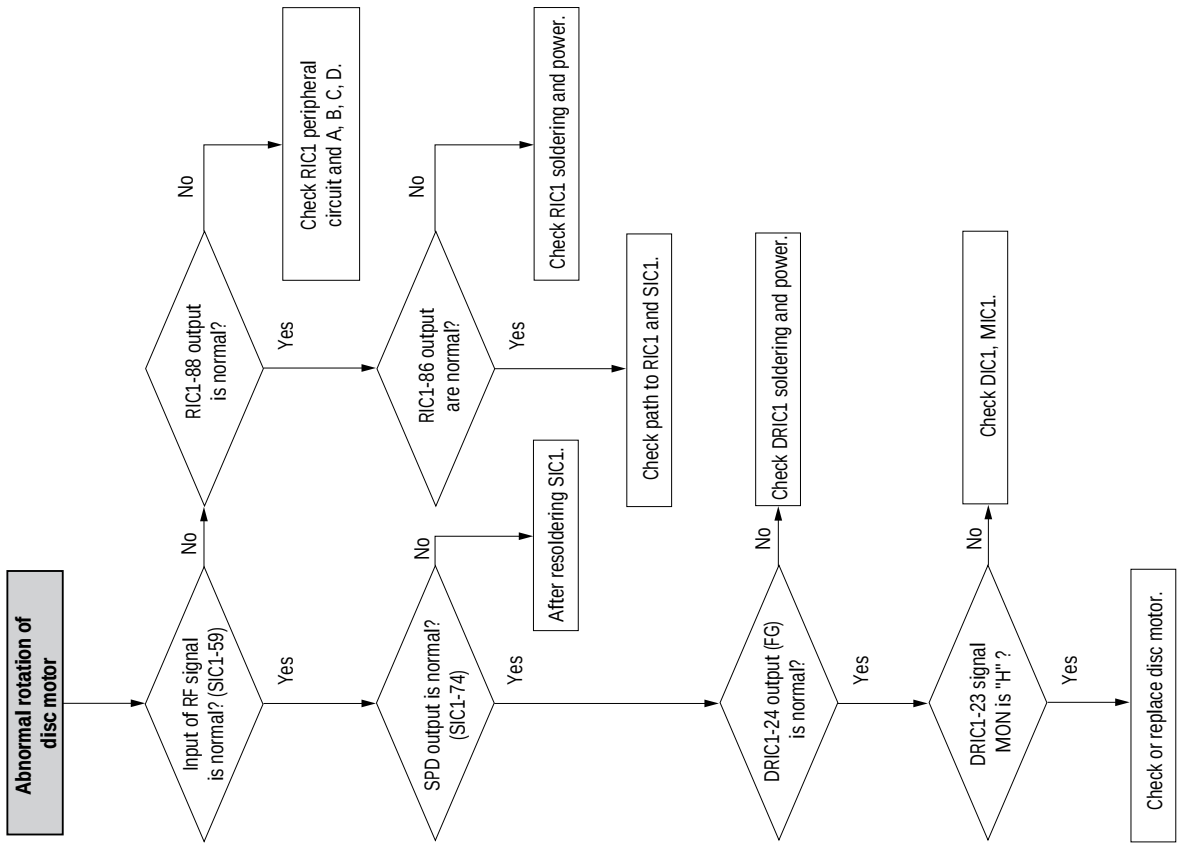
The audio data inputted to VIC1 (ZiVA-3) A/V decoder is divided into compressed data and uncompressed data. It is compressed data that is compressed with multi-channel audio data such as Dolby digital, MPEG, DTS, etc. The compressed data inputted to VIC1 (ZiVA-3) is converted into the uncompressed data of 2, 4, and 6 channels through ZiVA-3 built-in audio decoder and is outputted to Data 0, 1, 2, and 3 through digital audio interface. The compressed data is transmitted to external AC-3 amplifier or MPEG/DTS amplifier as IEC-958/1937 transmission data format compressed by ZiVA-3 built-in IEC-958 output process.

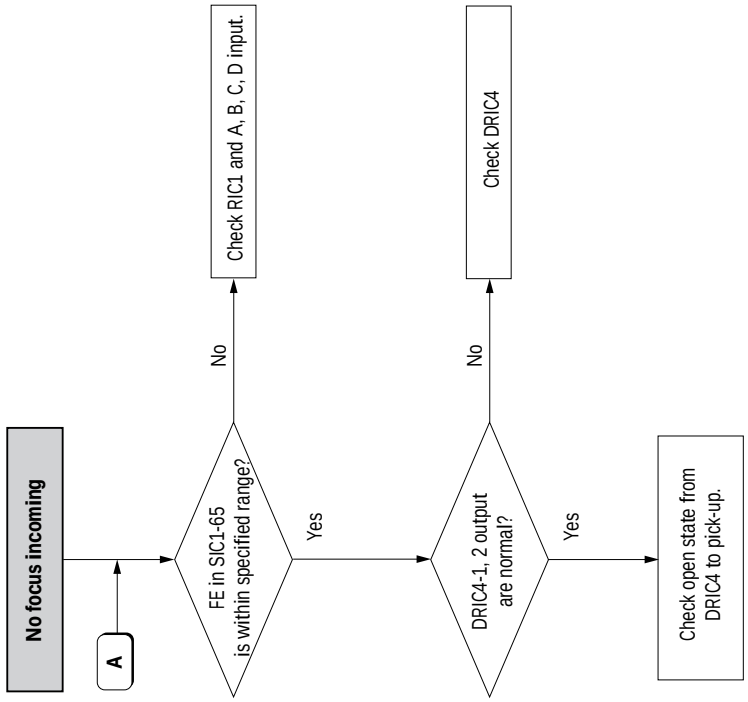
2) Uncompressed Data

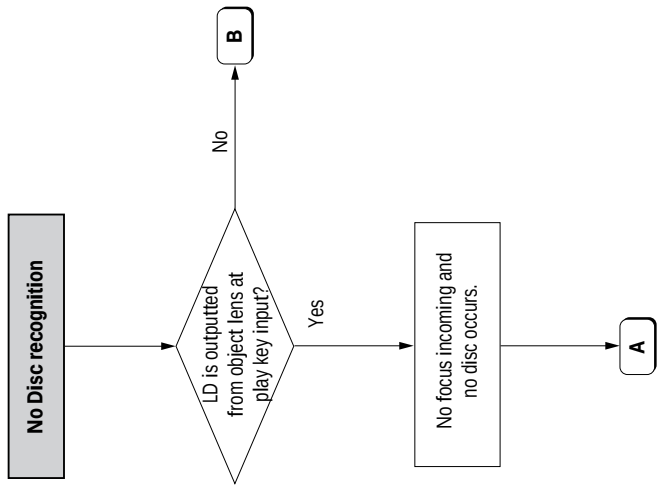
The uncompressed data is that data isn't compressed, so it is called CD-DA, LPCM data.
The 2 channels data is converted through audio decoder 2-channel data and Data 0 and Data 1 are outputted in digital audio interface.Via IEC-958 output process, they is transmitted to digital amplifier or AC-3/MPEG/DTS amplifier built in the external digital input source with IEC-958/1937 transmission format.

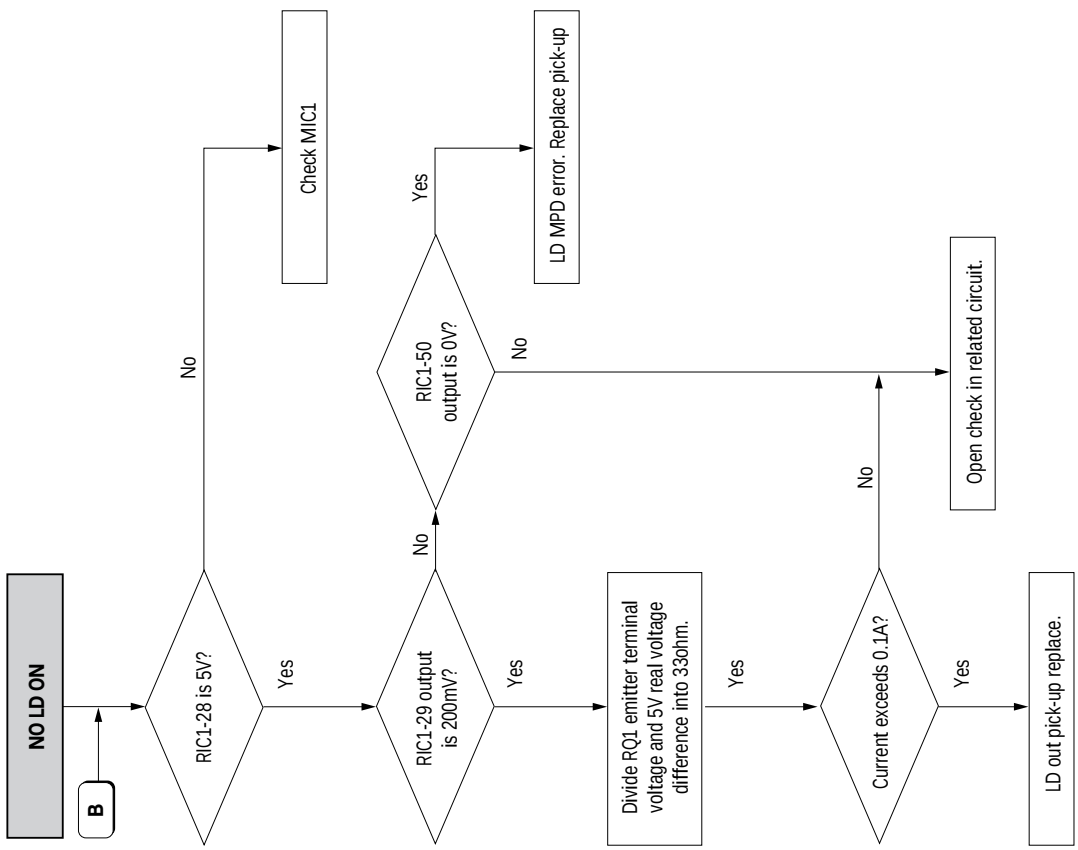

FINE SEEK Check
FINE SEEK MIRR signal (RIC1-57) is missing?
Yes
Check RIC1 Peripheral curcuit.
Yes
TZCO signal (SIC1-52) is occurs?
No
Check SIC1 Peripheral curcuit.
Yes
Track incomming is delayed?
No
Time out due to many jump counts.
Yes
TE is within 2V and 3V?
No
SIC1-76 output is normal?
No
Check RIC1-36 terminal.
Yes
Pick-up transfer smooth.
No
Check MECHA.
Yes
Check SIC1 peripheral circuit.
DRIC2-17, 18 terminal outputs are normal?
No
Check DRIC2 peripheral circuit.
Yes
Check CN6 and pick-up.
No Search Operation
PS0, PS1 is input SIC1-2, 3 terminal from SIC8-1, 7?
No
Check SIC8 peripheral circuit.
0.1Vp-p sine wave occurs at search at SIC8-2, 6 terminal?
No
Replace Hall PCB
Yes
Check SIC1 peripheral circuit.
Yes
Actual velocity occurs at SIC1-73 terminal?
No
Check DRIC2 peripheral circuit.
Yes
Actual velocity occurs at DRIC2-11, 12 terminal?
No
Focus On?
No
A
Yes
TE occurs in search range?
No
See "Fine Seek Check"
Yes

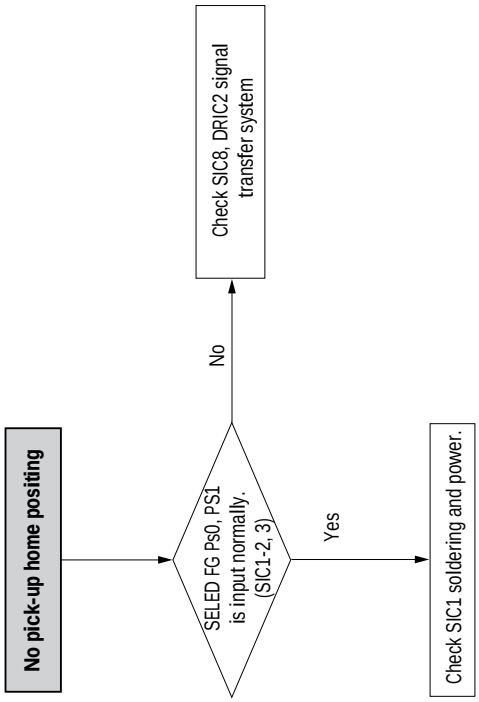

No Tray open/close
MIC1-84, 85 is Open : "L", "L" ? Close : "H", "H"?
No
Micom (MIC1) erroe.
Yes
Check DRIC2-26, 27 output at open/close
No
Check DRIC2
Yes
Check signal line state from DRIC1-26, 27 to tray motor.

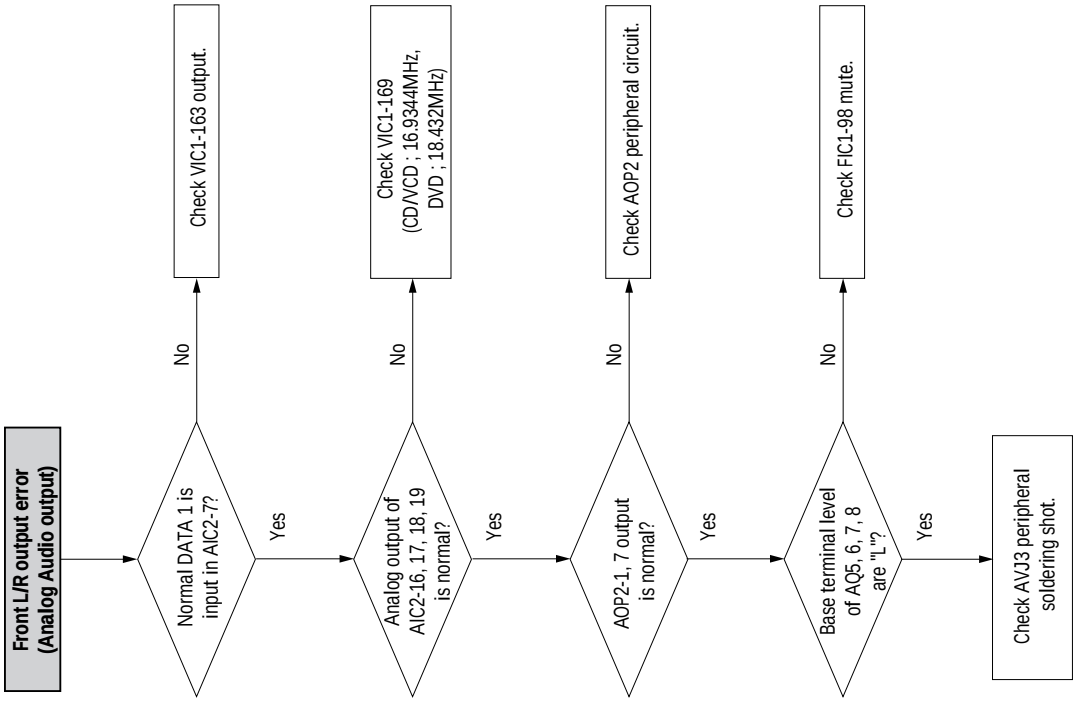

Abnormal rotation of disc motor
Input of RF signal is normal? (SIC1-59)
No
RIC1-88 output is normal?
No
Check RIC1 peripheral circuit and A, B, C, D.
Yes
RIC1-86 output are normal?
No
Check RIC1 soldering and power.
Yes
Check path to RIC1 and SIC1.
Yes
SPD output is normal? (SIC1-74)
No
After resoldering SIC1.
Yes
DRIC1-24 output (FG) is normal?
No
Check DRIC1 soldering and power.
Yes
DRIC1-23 signal MON is "H" ?
No
Check DIC1, MIC1.
Yes
Check or replace disc motor.

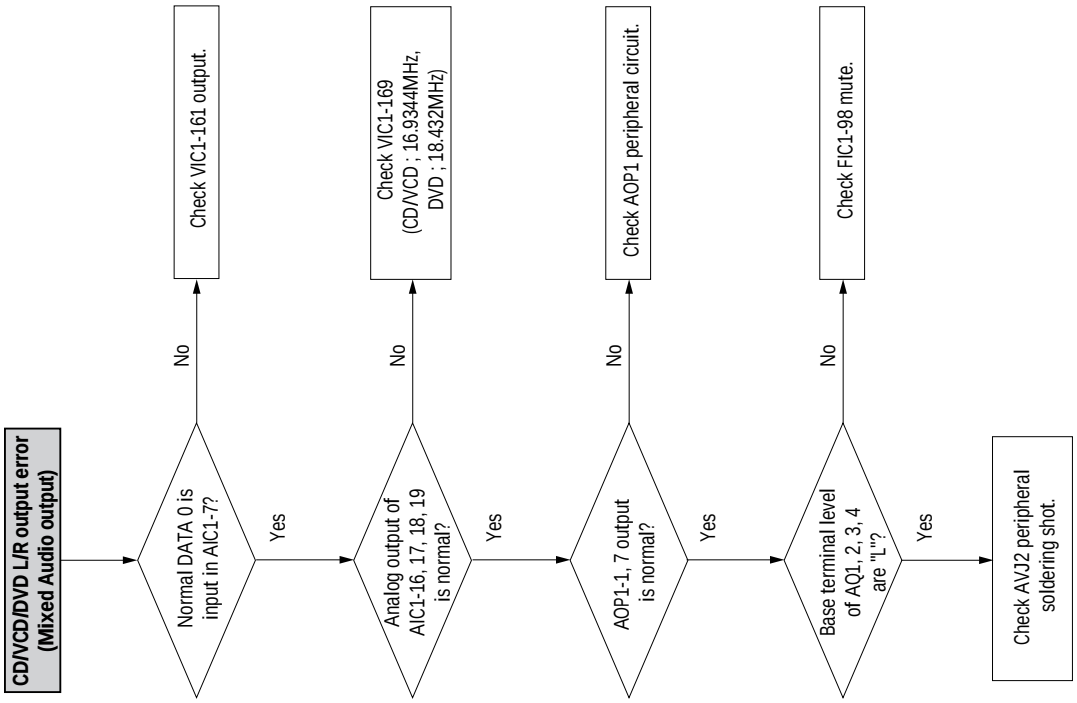

No focus incoming
A
FE in SIC1-65 is within specified range?
No
Check RIC1 and A, B, C, D input.
Yes
DRIC4-1, 2 output are normal?
No
Check DRIC4
Yes
Check open state from DRIC4 to pick-up.

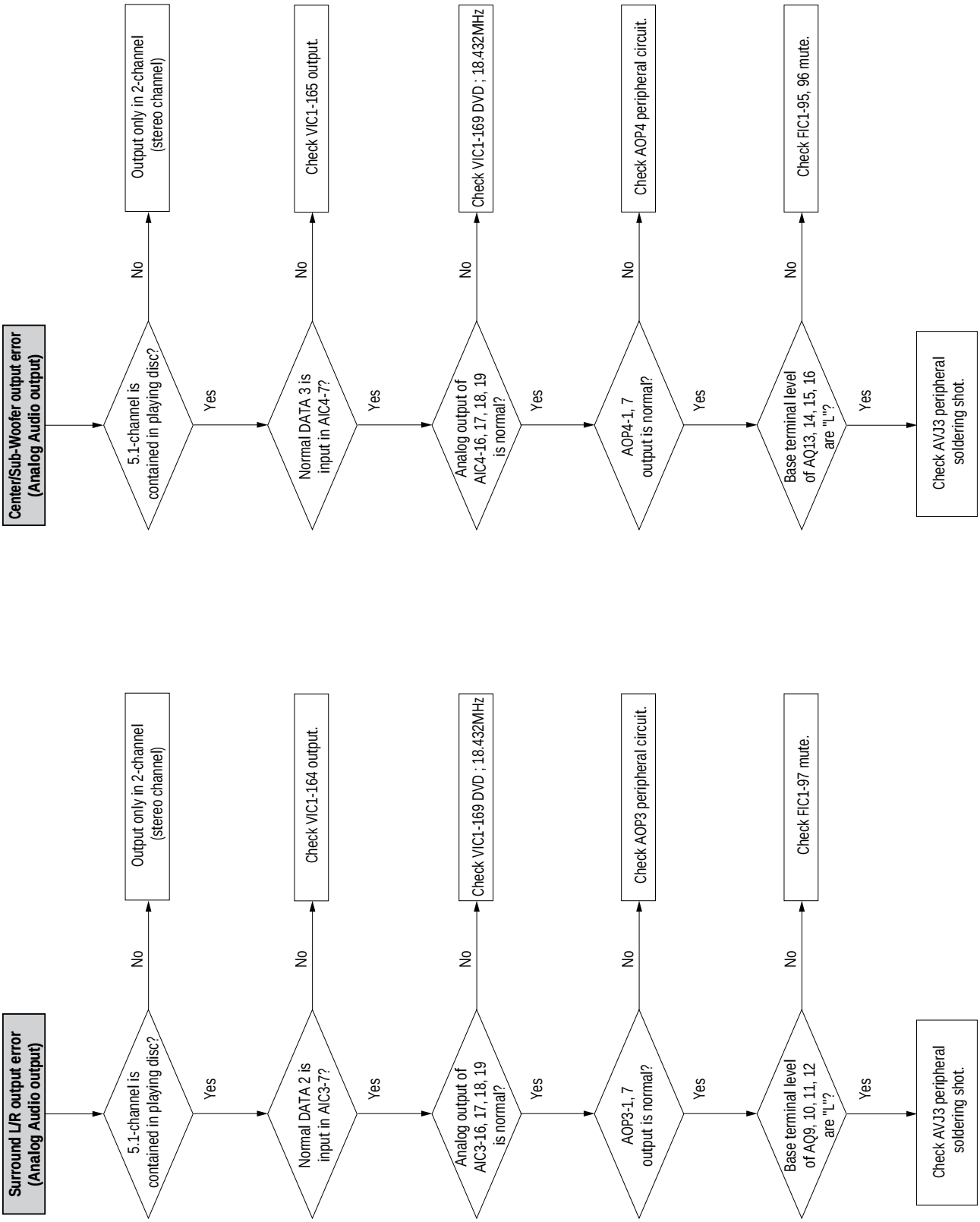

No Disc recognition
LD is outputted from object lens at play key input?
No
B
Yes
No focus incoming and no disc occurs.
A

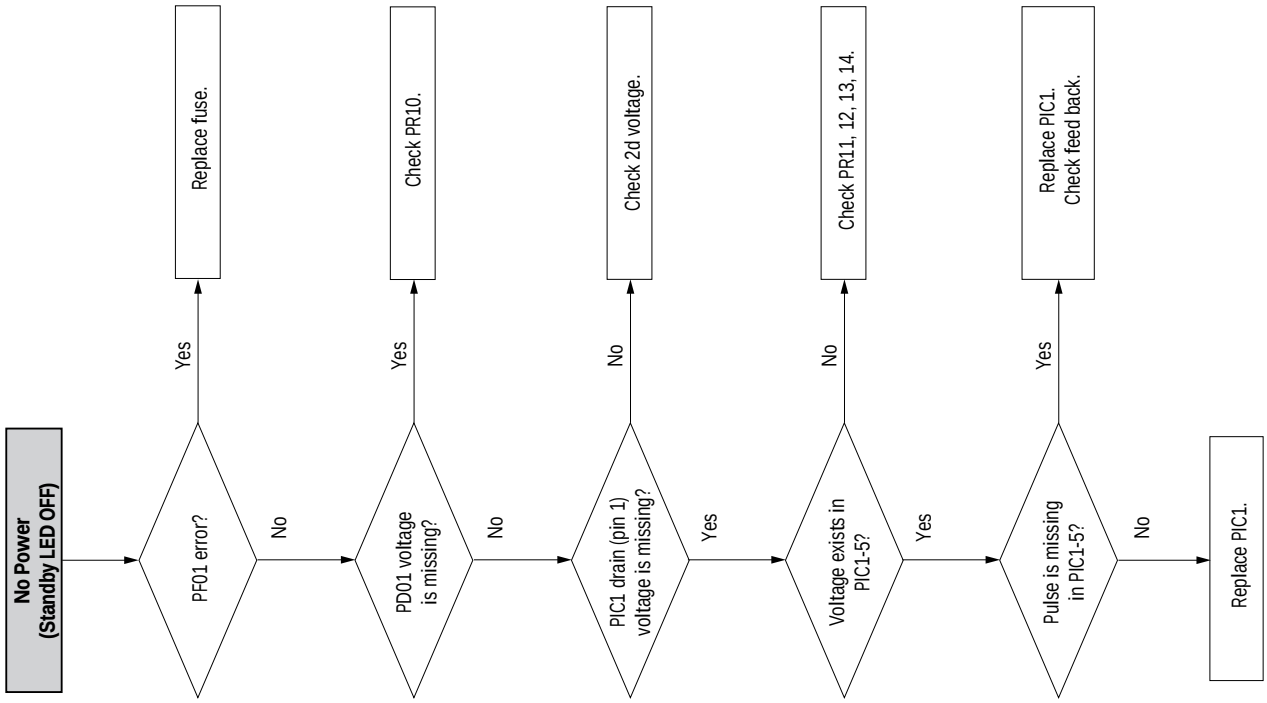

NO LD ON
B
RIC1-28 is 5V?
No
Check MIC1
Yes
RIC1-29 output is 200mV?
No
RIC1-50 output is 0V?
Yes
LD MPD error. Replace pick-up
No
Open check in related circuit.
Yes
Divide RQ1 emitter terminal voltage and 5V real voltage difference into 33ohm.
Yes
Current exceeds 0.1A?
No
Yes
LD out pick-up replace.

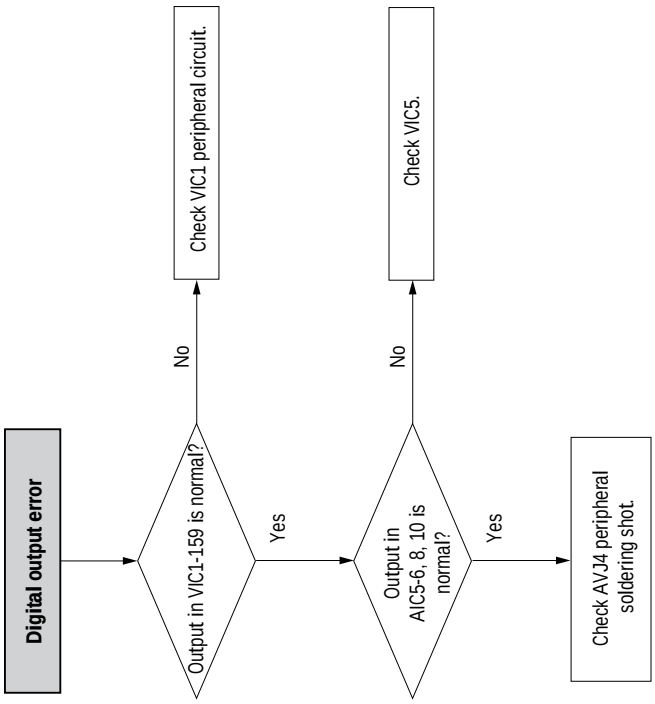

No pick-up home positing
SELED FG Ps0, PS1 is input normally. (SIC1-2, 3)
No
Check SIC8, DRIC2 signal transfer system
Yes
Check SIC1 soldering and power.

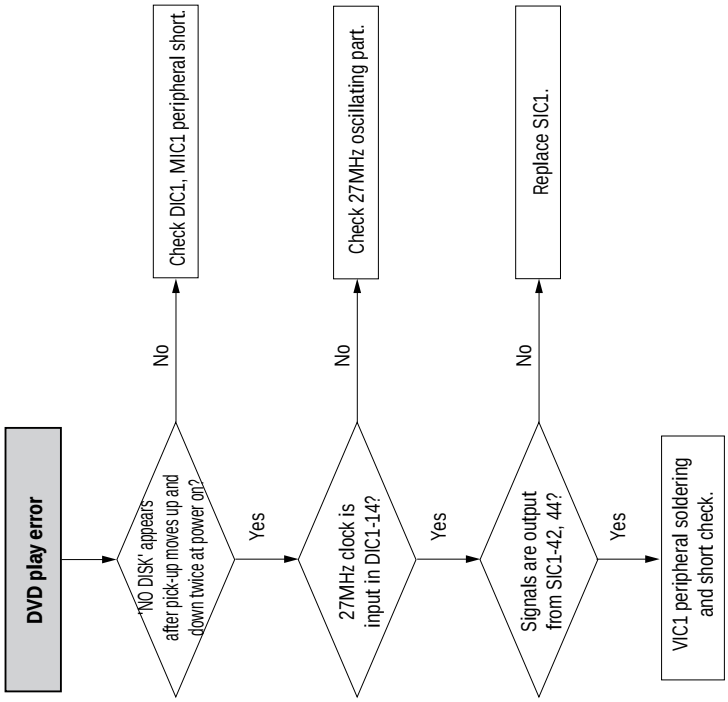

Front L/R output error
(Analog Audio output)
Normal DATA 1 is input in AIC2-7?
No
Check VIC1-163 output.
Yes
Analog output of AIC2-16, 17, 18, 19 is normal?
No
Check VIC1-169 (CD/VCD : 16.9344MHz, DVD : 18.432MHz)
Yes
AOP2-1, 7 output is normal?
No
Check AOP2 peripheral circuit.
Yes
Base terminal level of AQ5, 6, 7, 8 are "L"?
No
Check FIC1-98 mute.
Yes
Check AVJ3 peripheral soldering shot.

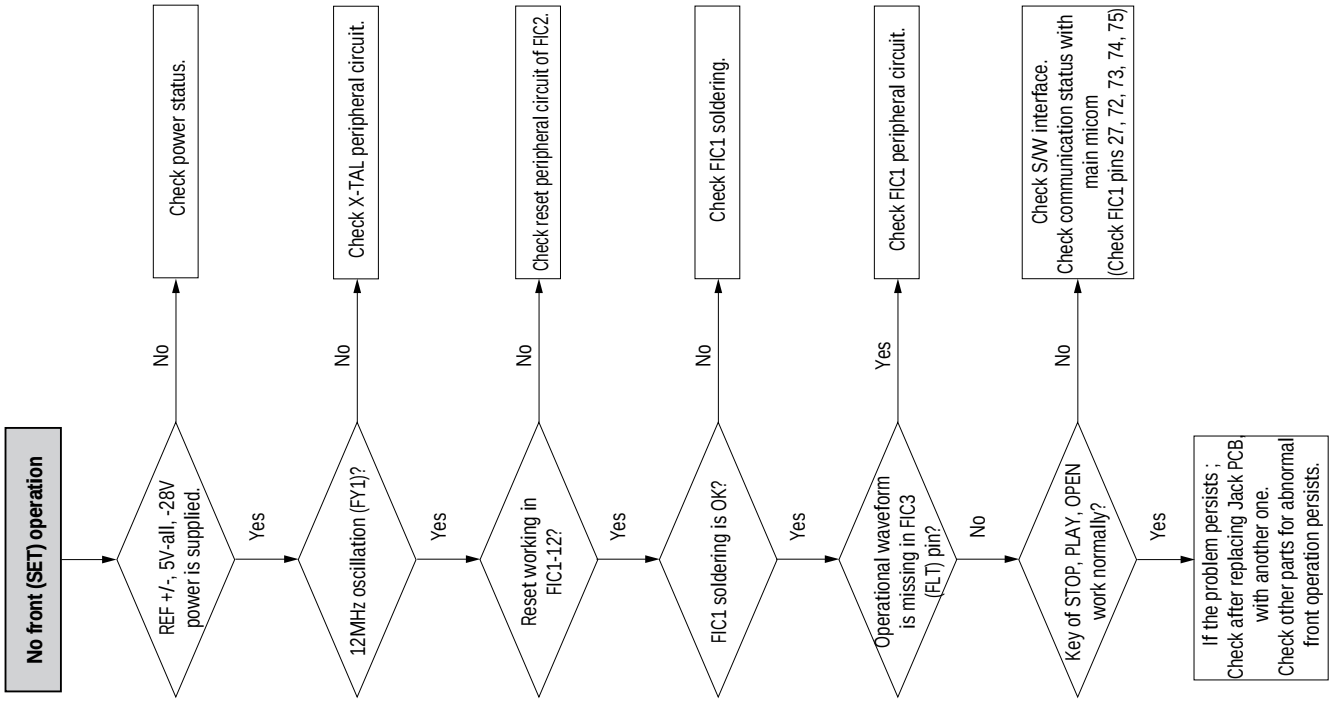

CD/VCD/DVD L/R output error
(Mixed Audio output)
Normal DATA 0 is input in AIC1-7?
No
Check VIC1-161 output.
Yes
Analog output of AIC1-16, 17, 18, 19 is normal?
No
Check VIC1-169 (CD/VCD : 16.9344MHz, DVD : 18.432MHz)
Yes
AOP1-1, 7 output is normal?
No
Check AOP1 peripheral circuit.
Yes
Base terminal level of AQ1, 2, 3, 4 are "L"?
No
Check FIC1-98 mute.
Yes
Check AVJ2 peripheral soldering shot.

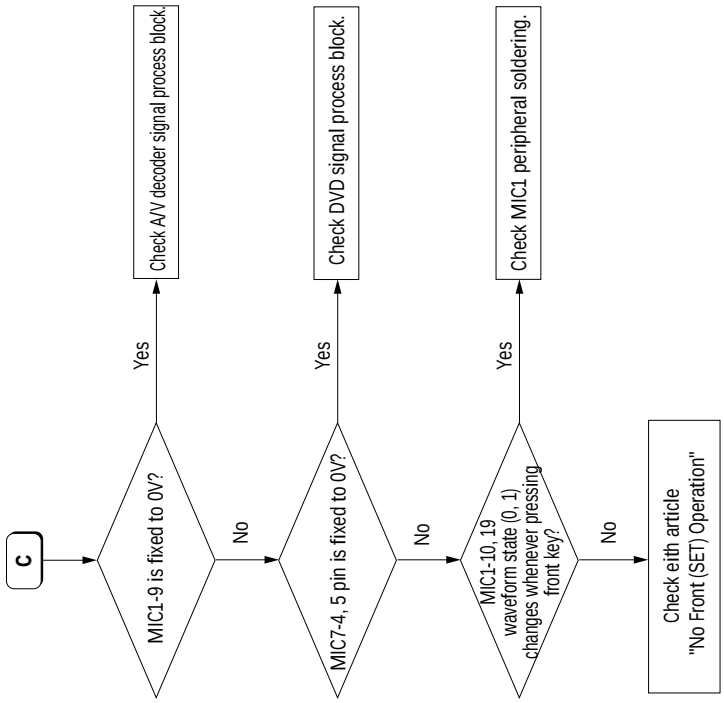

Surround L/R output error (Analog Audio output)
5.1-channel is contained in playing disc?
No
Output only in 2-channel (stereo channel)
Yes
Normal DATA 2 is input in AIC3-7?
No
Check VIC1-164 output.
Yes
Analog output of AIC3-16, 17, 18, 19 is normal?
No
Check VIC1-169 DVD ; 18.432MHz
Yes
AOP3-1, 7 output is normal?
No
Check AOP3 peripheral circuit.
Yes
Base terminal level of AQ9, 10, 11, 12 are "L"?
No
Check FIC1-97 mute.
Yes
Check AVJ3 peripheral soldering shot.
Center/Sub-Woofer output error (Analog Audio output)
5.1-channel is contained in playing disc?
No
Output only in 2-channel (stereo channel)
Yes
Normal DATA 3 is input in AIC4-7?
No
Check VIC1-165 output.
Yes
Analog output of AIC4-16, 17, 18, 19 is normal?
No
Check VIC1-169 DVD ; 18.432MHz
Yes
AOP4-1, 7 output is normal?
No
Check AOP4 peripheral circuit.
Yes
Base terminal level of AQ13, 14, 15, 16 are "L"?
No
Check FIC1-95, 96 mute.
Yes
Check AVJ3 peripheral soldering shot.

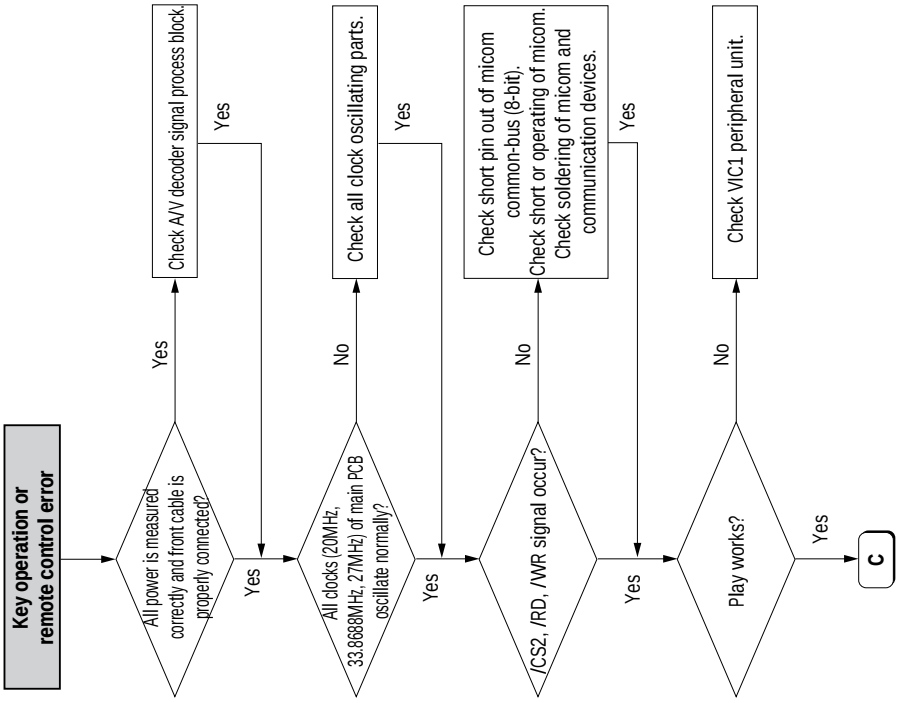

No Power
(Standby LED OFF)
PF01 error?
Yes
Replace fuse.
No
PD01 voltage
is missing?
Yes
Check PR10.
No
PIC1 drain (pin 1)
voltage is missing?
No
Check 2d voltage.
Yes
Voltage exists in
PIC1-5?
No
Check PR11, 12, 13, 14.
Yes
Pulse is missing
in PIC1-5?
Yes
Replace PIC1.
Check feed back.
No
Replace PIC1.

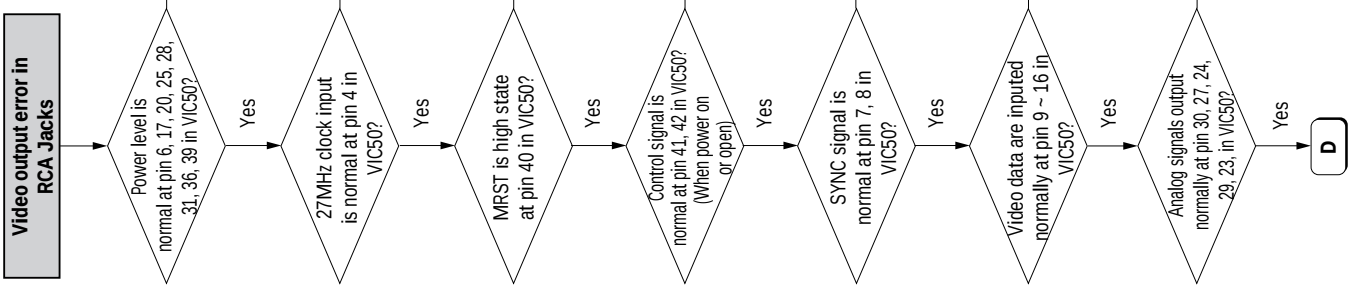

Digital output error
Output in VIC1-159 is normal?
No
Check VIC1 peripheral circuit.
Yes
Output in
AIC5-6, 8, 10 is
normal?
No
Check VIC5.
Yes
Check AVJ4 peripheral
soldering shot.

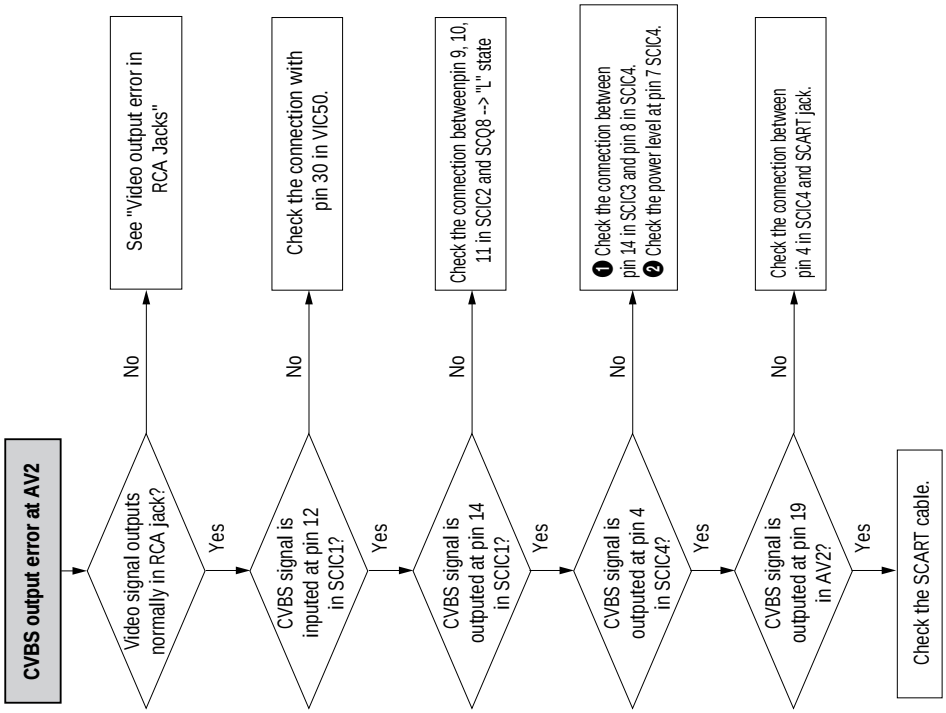

DVD play error
'NO DISK' appears after pick-up moves up and down twice at power on?
No
Check DIC1, MIC1 peripheral short.
Yes
27MHz clock is input in DIC1-14?
No
Check 27MHz oscillating part.
Yes
Signals are output from SIC1-42, 44?
No
Replace SIC1.
Yes
VIC1 peripheral soldering and short check.

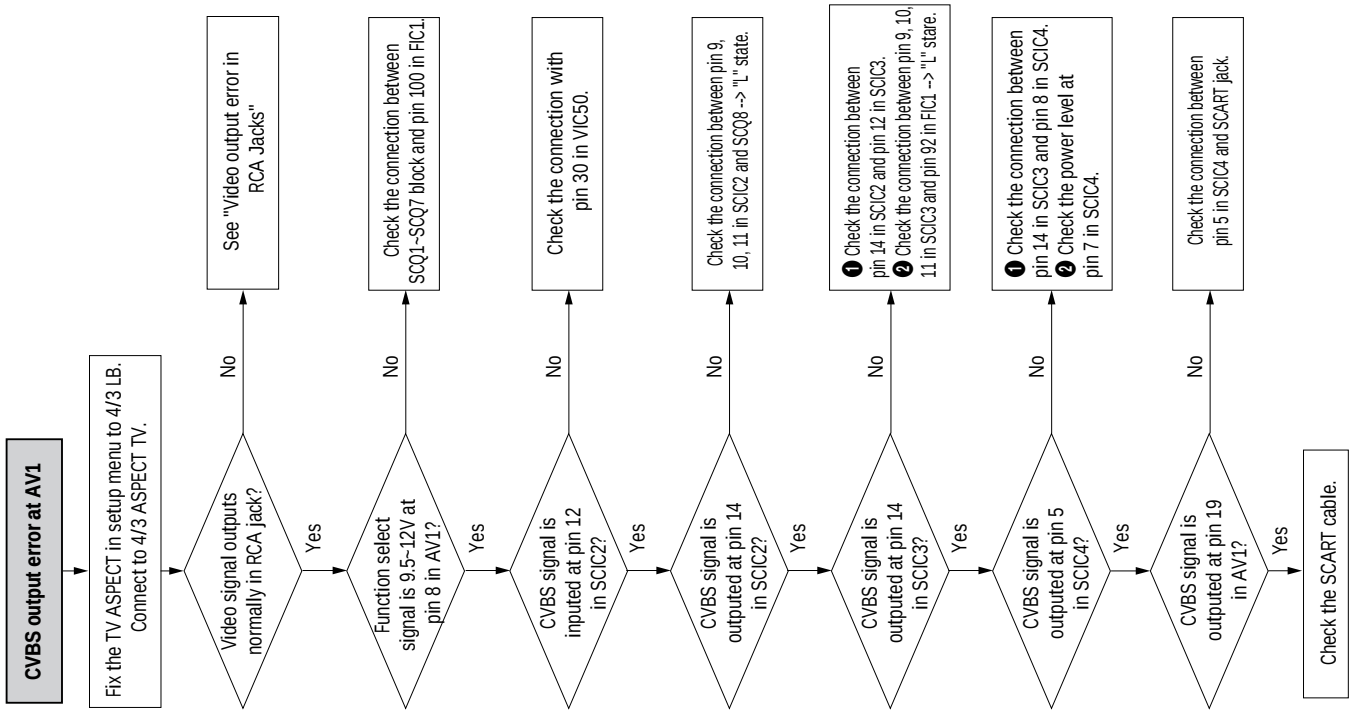

No front (SET) operation
REF +/-, 5V-all, -28V power is supplied.
No
Check power status.
Yes
12MHz oscillation (FY1)?
No
Check X-TAL peripheral circuit.
Yes
Reset working in FIC1-12?
No
Check reset peripheral circuit of FIC2.
Yes
FIC1 soldering is OK?
No
Check FIC1 soldering.
Yes
Operational waveform is missing in FIC3 (FLT) pin?
Yes
Check FIC1 peripheral circuit.
No
Key of STOP, PLAY, OPEN work normally?
No
Check S/W interface. Check communication status with main micom (Check FIC1 pins 27, 72, 73, 74, 75)
Yes
If the problem persists ; Check after replacing Jack PCB with another one. Check other parts for abnormal front operation persists.

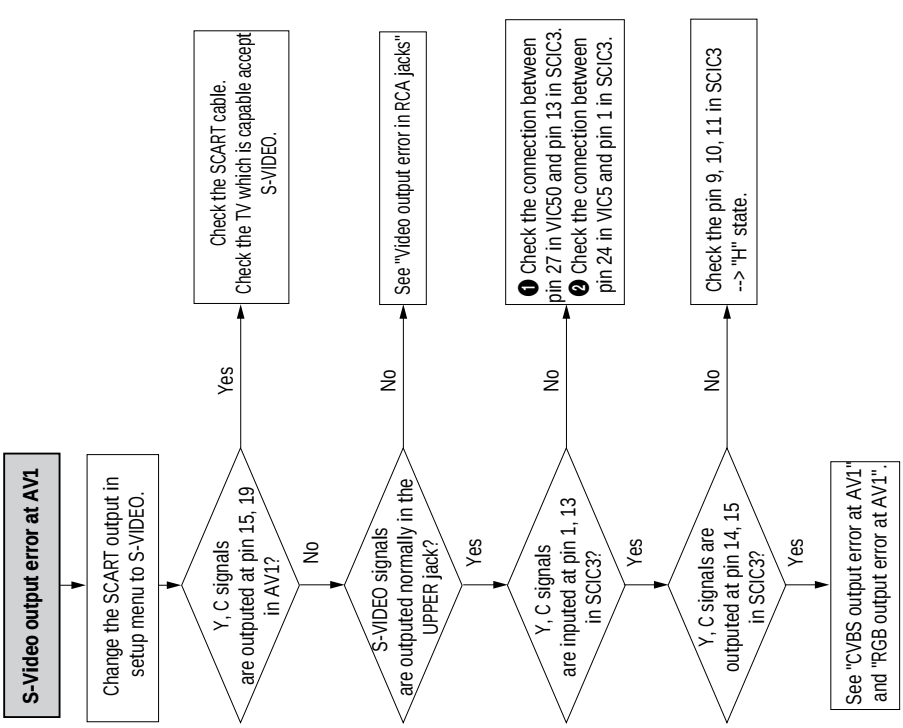

C
MIC1-9 is fixed to 0V?
Yes
Check A/V decoder signal process block.
No
MIC7-4, 5 pin is fixed to 0V?
Yes
Check DVD signal process block.
No
MIC1-10, 19 waveform state (0, 1) changes whenever pressing front key?
Yes
Check MIC1 peripheral soldering.
No
Check eith article "No Front (SET) Operation"

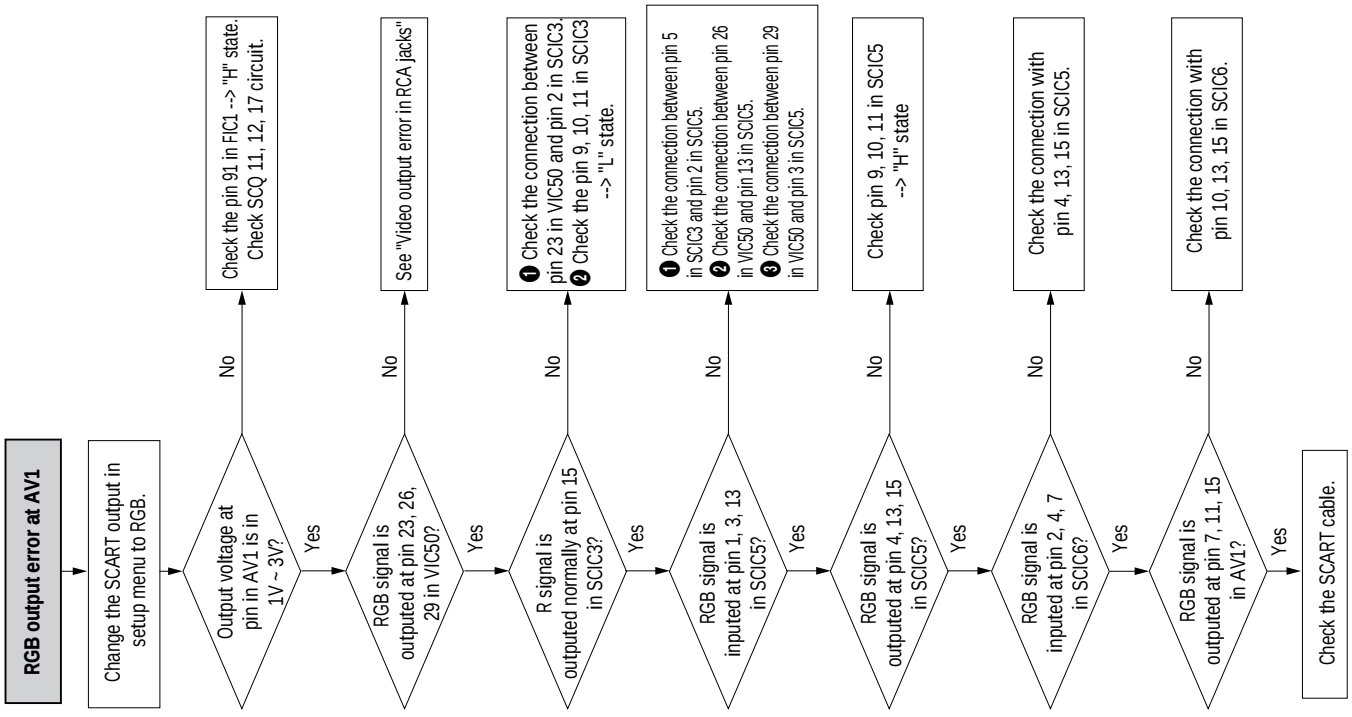

Key operation or remote control error
All power is measured correctly and front cable is properly connected?
Yes
Check A/V decoder signal process block.
Yes
All clocks (20MHz, 33.8688MHz, 27MHz) of main PCB oscillate normally?
No
Check all clock oscillating parts.
Yes
/CS2, /RD, /WR signal occur?
No
Check short pin out of micom common-bus (8-bit).
Check short or operating of micom.
Check soldering of micom and communication devices.
Yes
Play works?
No
Check VIC1 peripheral unit.
Yes
C


Video output error in RCA Jacks
Power level is normal at pin 6, 17, 20, 25, 28, 31, 36, 39 in VIC50?
No
Check the connection between pin 2 in PIC6 and Emmiter in PQ24.
Yes
27MHz clock input is normal at pin 4 in VIC50?
No
Check the connection between pin 10 in VIC6 and pin 4 in VIC50.
Yes
MRST is high state at pin 40 in VIC50?
No
Check the connection between pin 1 in FIC1 and pin 40 in VIC50.
Yes
Control signal is normal at pin 41, 42 in VIC50? (When power on or open)
No
Check the connection between pin 86, 87 in MIC1 and pin 41, 42 in VIC50.
Yes
SYNC signal is normal at pin 7, 8 in VIC50?
No
Check the soldering of VIC50.
No
Change VIC50.
Yes
Video data are inputed normally at pin 9 ~ 16 in VIC50?
No
Check the connection with pin 180, 182, 184 ~ 189 in VIC1.
Yes
Analog signals output normally at pin 30, 27, 24, 29, 23, in VIC50?
No
Check the soldering of VIC50.
No
Change VIC50.
Yes
D
D
Analog signals are inputed normally at pin 2, 4, 7 in VIC51, 52?
No
Check the connection between VIC50 and VIC51, 52.
Yes
Power is normal at pin 16 in VIC51, 52?
No
Check the connection between VIC51, 52 and Emmiter of PQ24.
Yes
Pin 1 in VIC51, 52 is in Low state?
No
Connect to ground.
Yes
Video signals of about 2V appear at pin 10, 13, 15 in VIC51, 52?
No
Check the soldering of VIC51, 52.
No
Change VIC51, 52.
Yes
Video signals of about 1V appear at output jacks?
No
Check the connection between VIC51, 52 and output jacks.
Yes
Check the RCA cable.


CVBS output error at AV2
Video signal outputs normally in RCA jack?
No
See "Video output error in RCA Jacks"
Yes
CVBS signal is inputed at pin 12 in SCIC1?
No
Check the connection with pin 30 in VIC50.
Yes
CVBS signal is outputed at pin 14 in SCIC1?
No
Check the connection betweenpin 9, 10, 11 in SCIC2 and SCQ8 --> "L" state
Yes
CVBS signal is outputed at pin 4 in SCIC4?
No
❶ Check the connection between pin 14 in SCIC3 and pin 8 in SCIC4.
❷ Check the power level at pin 7 SCIC4.
Yes
CVBS signal is outputed at pin 19 in AV2?
No
Check the connection between pin 4 in SCIC4 and SCART jack.
Yes
Check the SCART cable.


CVBS output error at AV1
Fix the TV ASPECT in setup menu to 4/3 LB.
Connect to 4/3 ASPECT TV.
Video signal outputs normally in RCA jack?
No
See "Video output error in RCA Jacks"
Yes
Function select signal is 9.5~12V at pin 8 in AV1?
No
Check the connection between SCQ1~SCQ7 block and pin 100 in FIC1.
Yes
CVBS signal is inputed at pin 12 in SCIC2?
No
Check the connection with pin 30 in VIC50.
Yes
CVBS signal is outputed at pin 14 in SCIC2?
No
Check the connection between pin 9, 10, 11 in SCIC2 and SCQ8 --> "L" state.
Yes
CVBS signal is outputed at pin 14 in SCIC3?
No
❶ Check the connection between pin 14 in SCIC2 and pin 12 in SCIC3.
❷ Check the connection between pin 9, 10, 11 in SCIC3 and pin 92 in FIC1 --> "L" stare.
Yes
CVBS signal is outputed at pin 5 in SCIC4?
No
❶ Check the connection between pin 14 in SCIC3 and pin 8 in SCIC4.
❷ Check the power level at pin 7 in SCIC4.
Yes
CVBS signal is outputed at pin 19 in AV1?
No
Check the connection between pin 5 in SCIC4 and SCART jack.
Yes
Check the SCART cable.


S-Video output error at AV1
Change the SCART output in setup menu to S-VIDEO.
Y, C signals are outputted at pin 15, 19 in AV1?
Yes
Check the SCART cable. Check the TV which is capable accept S-VIDEO.
No
S-VIDEO signals are outputed normally in the UPPER jack?
No
See "Video output error in RCA jacks"
Yes
Y, C signals are inputed at pin 1, 13 in SCIC3?
No
❶ Check the connection between pin 27 in VIC50 and pin 13 in SCIC3. ❷ Check the connection between pin 24 in VIC5 and pin 1 in SCIC3.
Yes
Y, C signals are outputted at pin 14, 15 in SCIC3?
No
Check the pin 9, 10, 11 in SCIC3 --> "H" state.
Yes
See "CVBS output error at AV1" and "RGB output error at AV1".


RGB output error at AV1
Change the SCART output in setup menu to RGB.
Output voltage at pin in AV1 is in 1V ~ 3V?
No
Check the pin 91 in FIC1 --> "H" state. Check SCQ 11, 12, 17 circuit.
Yes
RGB signal is outputted at pin 23, 26, 29 in VIC50?
No
See "Video output error in RCA jacks"
Yes
R signal is outputed normally at pin 15 in SCIC3?
No
❶ Check the connection between pin 23 in VIC50 and pin 2 in SCIC3. ❷ Check the pin 9, 10, 11 in SCIC3 --> "L" state.
Yes
RGB signal is inputed at pin 1, 3, 13 in SCIC5?
No
❶ Check the connection between pin 5 in SCIC3 and pin 2 in SCIC5. ❷ Check the connection between pin 26 in VIC50 and pin 13 in SCIC5. ❸ Check the connection between pin 29 in VIC50 and pin 3 in SCIC5.
Yes
RGB signal is outputted at pin 4, 13, 15 in SCIC5?
No
Check pin 9, 10, 11 in SCIC5 --> "H" state
Yes
RGB signal is inputed at pin 2, 4, 7 in SCIC6?
No
Check the connection with pin 4, 13, 15 in SCIC5.
Yes
RGB signal is outputted at pin 7, 11, 15 in AV1?
No
Check the connection with pin 10, 13, 15 in SCIC6.
Yes
Check the SCART cable.

# 8. Exploded View and Parts List

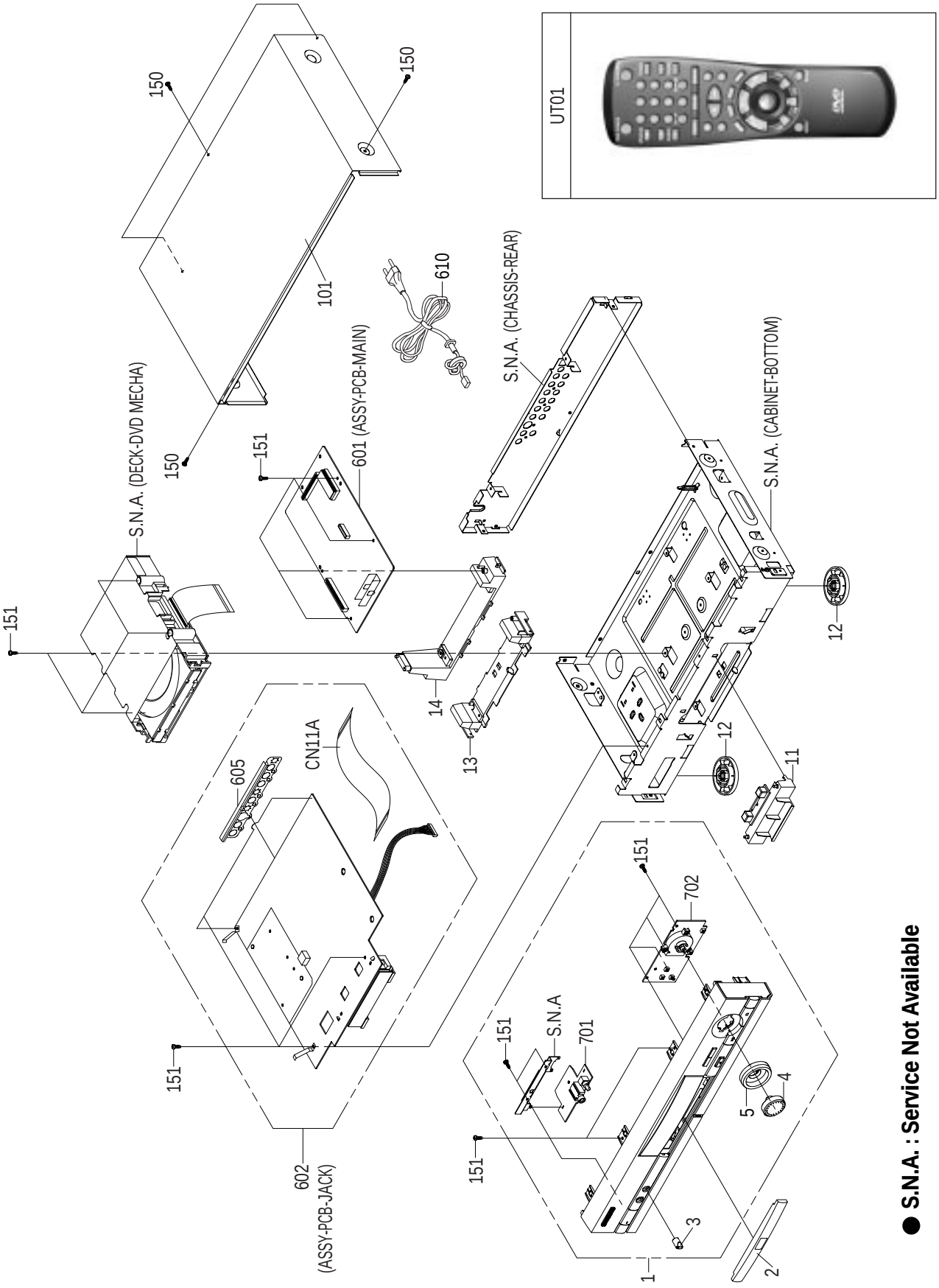

Page

8-1 Cabinet Assembly (DVD-909) - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 8-2

8-2 Cabinet Assembly (DVD-709) - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 8-4

8-3 Deck Assembly - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 8-6

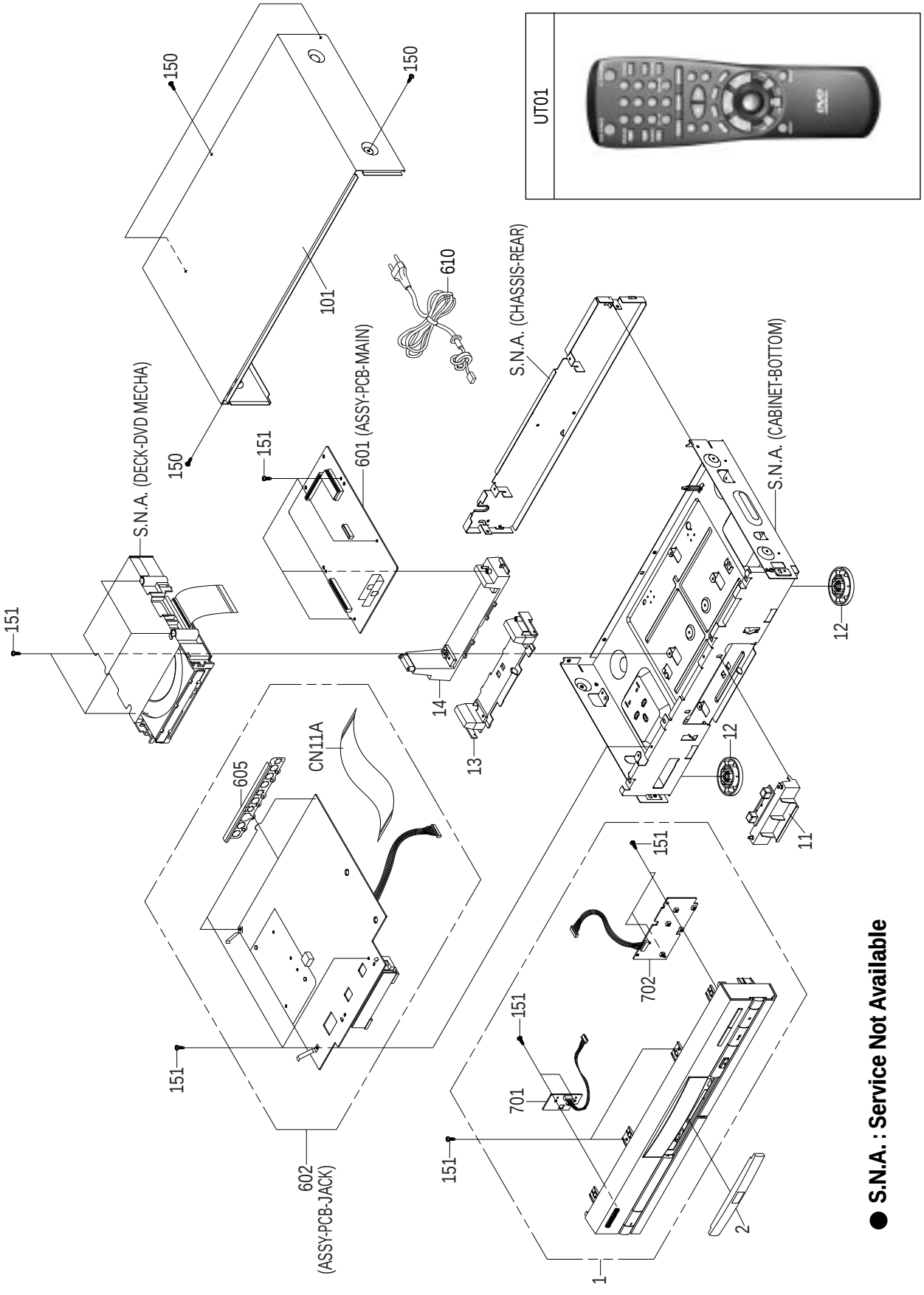
# 8-1 Cabinet Assembly (DVD-909)



| Loc. No | Parts No. | Description ; Specification | Remark |
|---|---|---|---|
| 1 | **Refer to table below** | ASSY-CABINET FRONT;DVD-909,ASSY,EXPORT | |
| 2 | **Refer to table below** | ASSY-DOOR TRAY;DVD-739,ABS,XAA | |
| 3 | **Refer to table below** | KNOB-VOLUME;-,ABS94,HB,L/GRAY,-,DVD-909 | |
| 4 | **Refer to table below** | KNOB-JOG;-,ABS94,HB,BLK,-,DVD-909 | |
| 5 | **Refer to table below** | KNOB-SHUTTLE;-,ABS94,HB,BLK,-,DVD-909 | |
| 11 | AH61-00194A | HOLDER-DECK A;-,ABS 94HB,-,DVD-909 | |
| 12 | AH64-80001E | FOOT-FRONT;-,ABS94,HB,T2,SIL,H/STAMP,DVD | |
| 13 | AH61-00194B | HOLDER-DECK B;-,ABS 94HB,-,BLK,-,DVD-909 | |
| 14 | AH61-00194C | HOLDER-DECK C;-,ABS 94HB,-,BLK,-,DVD-909 | |
| 101 | **Refer to table below** | ASSY-CABINET TOP;ABS, | |
| 150 | **Refer to table below** | SCREW-TAPTITE;BH,+,B,M3,L10,SWCH1018 | |
| 151 | 6003-000276 | SCREW-TAPTITE;BH,+,B,M3,L10,ZPC(YEL),SWC | |
| 601 | **Refer to table below** | ASSY-PCB-MAIN;DVD-909,MAIN PCB | |
| 602 | **Refer to table below** | ASSY-PCB-JACK;DVD-909,JACK PCB | |
| 605 | AH63-00040A | GROUND-REAR;-,PBS,T0.2,-,DVD-909 | |
| 610 | AH39-00034A | POWER CORD;-,1.83M,CONNECTOR (EP-2) | NORTH AMERICA |
| | AH39-00129A | POWER CORD;-,1.83M,CONNECTOR | LATIN AMERICA |
| | AH39-00042A | POWER CORD;-,1.83M,CONNECTOR (BS) | U.K |
| | AH39-10002R | POWER CORD;-,1.83M,CONNECTOR (AP-2) | AUSTRALIA |
| | AH39-00041A | POWER CORD;-,1.83M,CONNECTOR (CP-2) | COMMON |
| 701 | AH92-00169A | ASSY-PCB-PHONE POWER;DVD-909,PHONE | |
| 702 | AH92-00168A | ASSY-PCB-PLAY;DVD-909,PLAY | |
| CN11A | 3809-001133 | CABLE-FLAT;30V,80C,200MM,35P,1.25MM,UL28 | |
| UT01 | **Refer to table below** | REMOCON-ASS'Y;-,-,-,48,DVD-909,S.S | |

| REGIONAL NUMBER | | 1 | 2 | 3 | 4 | 5 | 101 | 150 | 601 | 602 | UT01 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | AH95-10353K | AH95-50369E | AH64-11306C | AH64-11346A | AH64-11345A | AH97-00188A | 6003-000275 | AH92-00052A | AH92-00053A | AH59-10141A |
| 2 | EUROPE | AH95-10353L | AH95-50369A | AH64-11306E | AH64-11346B | AH64-11345B | AH97-00188C | AH60-00025A | AH92-00054A | AH92-00055A | AH59-10141B |
| | TRKEY | AH95-10353H | AH95-50369E | AH64-11306C | AH64-11346A | AH64-11345A | AH97-00188C | AH60-00025A | AH92-00054A | AH92-00055A | AH59-10141B |
| 4 | | AH95-10353L | AH95-50369A | AH64-11306E | AH64-11346B | AH64-11345B | AH97-00188C | AH60-00025A | AH92-00436A | AH92-00437A | AH59-10141B |
| 5 | | AH95-10353L | AH95-50369A | AH64-11306E | AH64-11346B | AH64-11345B | AH97-00188C | AH60-00025A | AH92-00413A | AH92-00412A | AH59-10141B |

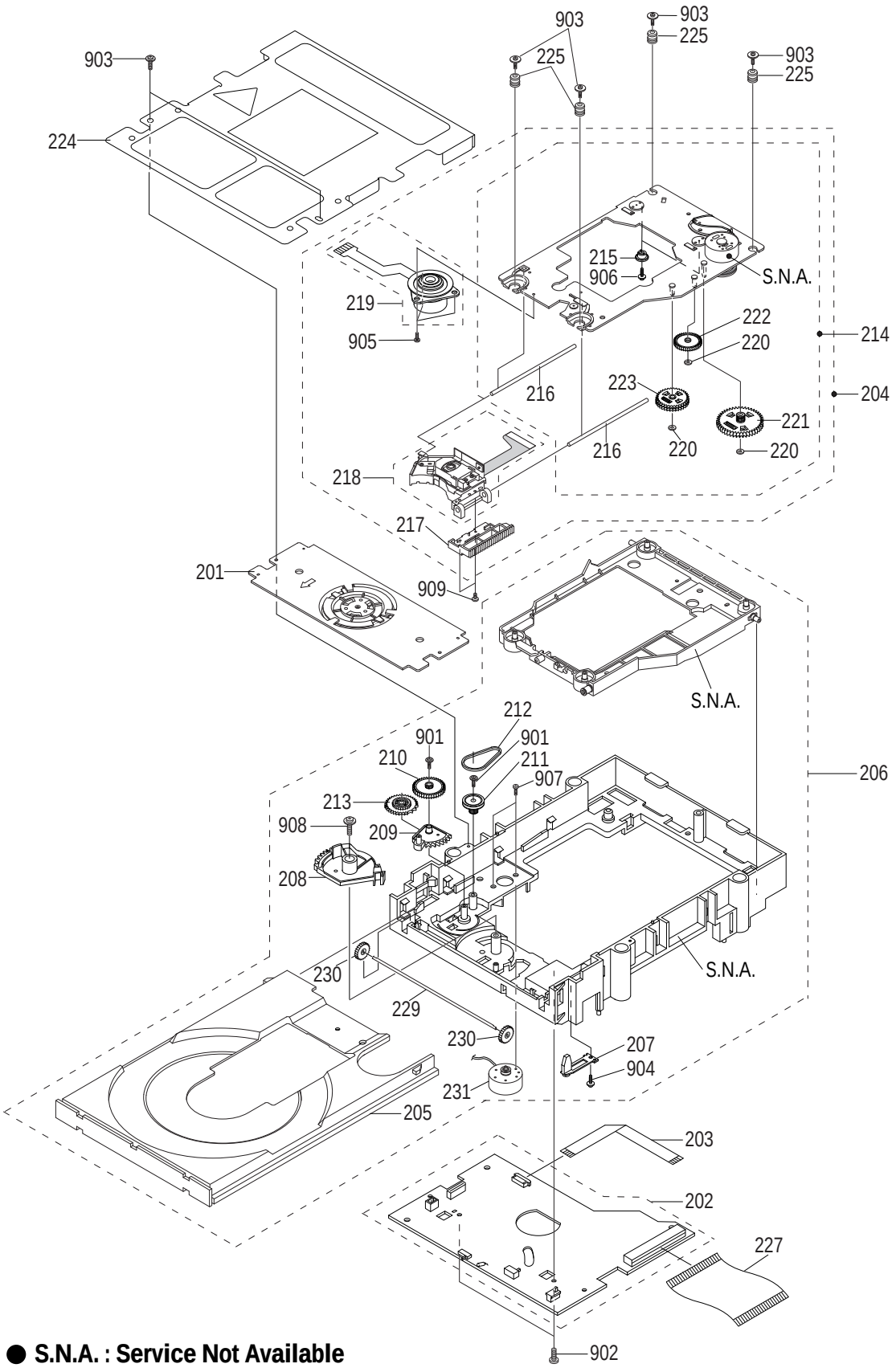
## 8-2 Cabinet Assembly (DVD-709)



| Loc. No | Parts No. | Description ; Specification | Remark |
|---|---|---|---|
| 1 | **Refer to table below** | ASSY-CABINET FRONT;DVD-709,ASSY,EXPORT | |
| 2 | **Refer to table below** | ASSY-DOOR TRAY;DVD-709,ABS | |
| 11 | AH61-00194A | HOLDER-DECK A;-,ABS 94HB,-,DVD-909 | |
| 12 | AH64-80001E | FOOT-FRONT;-,ABS94,HB,T2,SIL,H/STAMP,DVD | |
| 13 | AH61-00194B | HOLDER-DECK B;-,ABS 94HB,-,BLK,-,DVD-909 | |
| 14 | AH61-00194C | HOLDER-DECK C;-,ABS 94HB,-,BLK,-,DVD-909 | |
| 101 | **Refer to table below** | ASSY-CABINET TOP;DVD-709,ABS | |
| 150 | **Refer to table below** | SCREW-TAPTITE;BH,+,B,M3,L10,BLK,SWCH1018 | |
| 151 | 6003-000276 | SCREW-TAPTITE;BH,+,B,M3,L10,ZPC(YEL),SWC | |
| 601 | **Refer to table below** | ASSY-PCB-MAIN;DVD-709,MAIN PCB | |
| 602 | **Refer to table below** | ASSY-PCB-JACK;DVD-709,JACK PCB | |
| 605 | AH63-00040A | GROUND-REAR;-,PBS,T0.2,-,DVD-909 | |
| 610 | AH39-00034A | POWER CORD;-,1.83M,CONNECTOR (EP-2) | NORTH AMERICA |
| | AH39-00129A | POWER CORD;-,1.83M,CONNECTOR | LATIN AMERICA |
| | AH39-00042A | POWER CORD;-,1.83M,CONNECTOR (BS) | U.K |
| | AH39-10002R | POWER CORD;-,1.83M,CONNECTOR (AP-2) | AUSTRALIA |
| | AH39-00041A | POWER CORD;-,1.83M,CONNECTOR (CP-2) | COMMON |
| 701 | AH92-00167A | ASSY-PCB-POWER;DVD-709,POWER | |
| 702 | AH92-00166A | ASSY-PCB-PLAY;DVD-709,PLAY | |
| CN11A | 3809-001133 | CABLE-FLAT;30V,80C,200MM,35P,1.25MM,UL28 | |
| UT01 | **Refer to table below** | REMOCON-ASS'Y;-,-,-,48,DVD-909,S.S | |

| REGIONAL NUMBER | | 1 | 2 | 101 | 150 | 601 | 602 | UT01 |
|---|---|---|---|---|---|---|---|---|
| 1 | | AH95-10355A | AH95-50369C | AH97-00188A | 6003-000275 | AH92-00056A | AH92-00057A | AH59-10141A |
| 2 | EUROPE | AH95-10355C | AH95-50369A | AH97-00188C | AH60-00025A | AH92-00058A | AH92-00059A | AH59-10141B |
| | TRKEY | AH95-10355L | AH95-50369C | AH97-00188C | AH60-00025A | AH92-00058A | AH92-00059A | AH59-10141B |
| 4 | | AH95-10355C | AH95-50369A | AH97-00188C | AH60-00025A | AH92-00450A | AH92-00273A | AH59-10141B |
| 5 | | AH95-10355C | AH95-50369A | AH97-00188C | AH60-00025A | AH92-00439A | AH92-00440A | AH59-10141B |

## 8-3 Deck Assembly




● **S.N.A. : Service Not Available**

| Loc. No | Parts No. | Description ; Specification | Remark |
|---|---|---|---|
| 201 | AH91-60117A | ASSY-DECK CLAMPER;DVD860,-,DP-1 | |
| 202 | AH92-00035A | ASSY-PCB-DECK;DP-3,- | |
| 203 | 3809-001125 | CABLE-FLAT;30V,80C,140MM,8P,1MM,UL2896 | |
| 204 | AH91-60147A | ASSY-BRKT DECK;DP-3,DVD-909,- | |
| 205 | AH66-90054A | TRAY-DVD;DP,ABS,-,BLK,-,DP-1 | |
| 206 | AH91-60154A | ASSY-DECK HOUSING;DP-3,DVD-909,- | |
| 207 | AH66-30087A | LEVER-OPEN SW;DP,KEPITAL,T0.7,L26,F20-03 | |
| 208 | AH66-20194A | GEAR-CAM CENTER;DP,KEPITAL F20-03,M1.2,Z | |
| 209 | AH66-20183A | GEAR-CAM SUB;DP,KEPITAL FT2020,M1,2,Z7,- | |
| 210 | AH66-20185A | GEAR-TRAY A;DP,KEPITAL F20-03,M0.4/M0.5, | |
| 211 | AH66-10024A | PULLEY-GEAR;DP,KEPITAL F20-03,BLK,DP-1 | |
| 212 | AH66-60033A | BELT-PULLEY;DP,CR,T1.5,0.08,L82.7,BLK,DP | |
| 213 | AH66-20184A | GEAR-TRAY;DP,KEPITAL F20-03,M0.5/M0.6,Z4 | |
| 214 | AH97-00178A | ASSY-BRKT FEED;DP-3,-,SOH-DP1 | |
| 215 | BG61-20031A | HOLDER-CAM;-,POM,-,-,-,DDR-4 | |
| 216 | AH61-50327A | SHAFT-P/U;DP,SUS420J2,OD3,L84.7,S/FINISH | |
| 217 | AH66-20228A | RACK-SLIDE;DP,KEPITAL F20-03,WHT,M0.4,P1 | |
| 218 | AH30-20001B | PICK-UP;SPU-DP1 DVD-909 | |
| 219 | AH91-60151A | ASSY-MOTOR SPINDLE;DP-3,DVD-909,- | |
| 220 | AH60-30020A | WASHER-PLAIN;DP,-,ID3.1,OD6,T0.3,RED COL | |
| 221 | AH91-60120A | ASSY-GEAR-FEED-AU/AL;DP-1,DVD-860,- | |
| 222 | AH66-20182A | GEAR-FEED B;DP,KEPITAL F20-03,M0.4,Z44,W | |
| 223 | AH91-60121A | ASSY-GEAR-FEED-CU/CL;DP-1,DVD-860,- | |
| 224 | AH63-30245B | COVER-sheet;-,-,-,T0.7,CLR,-,BLK CARBON, | |
| 225 | AH73-10017A | RUBBER-INSULATOR;RUBBER(LB-40),OD11,DP-1 | |
| 227 | 3809-001123 | CABLE-FLAT;30V,80C,90MM,40P,1.25MM,UL289 | |
| 229 | AH61-50323A | SHAFT-SYNCRO;-,sus304,2.1,119,-,-,dvd-90 | |
| 230 | AH66-22005A | GEAR-SYNCRO-A;KEPITAL F20-03,M0.8,Z9,-,P | |
| 231 | AH97-00179A | ASSY-HOUSING MOTOR;DP-3,-,SOH-DP1 | |
| 901 | AH60-10151A | SCREW-TAP TITE;DP,SPEC6.8 ,PH,+,CP,M2,L | |
| 902 | AC60-10051A | SCREW-TAPPING;BH,-,-,M3,L8,FZY | |
| 903 | AH60-10143U | SCREW-TAP TITE;DP,PH,+,SPEC,TAP1.7,L5,ZP | |
| 904 | AH60-10145A | SCREW-TAP TITE;DP,PH,+,SPEC OD5.5 FP,TAP | |
| 905 | AH60-10147A | SCREW-MACHINE;DP,CH,+,FP,M2,L4,ZPC,SWRCH | |
| 906 | AC60-10059A | SCREW-TAPPING;BH,+,-,1.7,X5,ZPC2 | |
| 907 | AH60-00010A | SCREW-MACHINE-MOTOR;-,+,SWCH18AK,M1.7,L2 | |
| 908 | AC60-10042A | SCREW-TAPPING;PWH,+,-,M3,L8,- | |
| 909 | BG60-10020A | SCREW-SP MOTOR;-,BHW TOOTH,-,-,M1.7,L3,- | |

# MEMO

# 9. Electrical Parts List

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| **601** | | **ASSY-PCB-MAIN** | |
| AR1 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| AR2 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| AR3 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| AR4 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| AR5 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| AR6 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| AR7 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| AR8 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| AR9 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| CN6 | 3708-001085 | CONNECTOR-FPC/FC/PIC;40P,1.25mm,STRAIGHT | |
| CN7 | 3711-003358 | CONNECTOR-HEADER;BOX,8P,1R,2.5mm,STRAIGH | |
| CN8 | 3708-001364 | CONNECTOR-FPC/FC/PIC;35P,1.25MM,STRAIGHT | |
| DC1 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| DC10 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DC11 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DC12 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DC13 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DC14 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DC15 | 2203-001567 | C-CERAMIC,CHIP;10pF,0.5pF,50V,CH,1608,1. | |
| DC16 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DC2 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| DC23 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DC24 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DC3 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| DC4 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DC5 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DC6 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DC7 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DC8 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DC9 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DE1 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| DIC1 | AH13-10030P | IC-ASIC;-,KS1453,TQFP,128P,DATA PRO. I | |
| DIC2 | 1105-001233 | IC-DRAM;416C256,256KX16BIT,SOJ,40P,400MI | |
| DIC7 | 0801-002097 | IC-CMOS LOGIC;7SET08,AND GATE,SOP,5P,110 | |
| DL1 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| DRC1 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DRC10 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DRC11 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DRC2 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DRC3 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DRC4 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DRC5 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DRC6 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DRC7 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DRC8 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DRC9 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| DRE1 | 2401-002075 | C-AL;4.7uF,20%,50V,GP,TP,5x11,5 | |
| DRE2 | 2401-002075 | C-AL;4.7uF,20%,50V,GP,TP,5x11,5 | |
| DRE3 | 2401-002075 | C-AL;4.7uF,20%,50V,GP,TP,5x11,5 | |
| DRE4 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| DRE5 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| DRE6 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| DRE7 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| DRE8 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| DRE9 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| DRIC1 | 1003-001130 | IC-MOTOR DRIVER;KA3011DTF,SOP,28P,-,QUAD | |
| DRIC2 | 1003-001067 | IC-MOTOR DRIVER;KA3010D,SOP,28P,375MIL,Q | |
| DRL1 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| DRL2 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| DRR10 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| DRR11 | 2007-000087 | R-CHIP;6.8Kohm,5%,1/16W,DA,TP,1608 | |
| DRR12 | 2007-000087 | R-CHIP;6.8Kohm,5%,1/16W,DA,TP,1608 | |
| DRR13 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| DRR14 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| DRR3 | 2007-007157 | R-CHIP;1ohm,5%,1/4W,DA,TP,3216 | |
| DRR4 | 2007-007157 | R-CHIP;1ohm,5%,1/4W,DA,TP,3216 | |
| DRR7 | 2007-001179 | R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608 | |
| DRR9 | 2007-000616 | R-CHIP;24Kohm,5%,1/16W,DA,TP,1608 | |
| MC1 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| MC10 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| MC11 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| MC12 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| MC13 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| MC14 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| MC16 | 2203-001656 | C-CERAMIC,CHIP;470pF,5%,50V,CH,TP,1608,1 | |
| MC18 | 2203-001656 | C-CERAMIC,CHIP;470pF,5%,50V,CH,TP,1608,1 | |
| MC19 | 2203-001656 | C-CERAMIC,CHIP;470pF,5%,50V,CH,TP,1608,1 | |
| MC2 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| MC20 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| MC3 | 2203-000426 | C-CERAMIC,CHIP;18pF,5%,50V,NPO,1608,-,TP | |
| MC4 | 2203-000426 | C-CERAMIC,CHIP;18pF,5%,50V,NPO,1608,-,TP | |
| MC5 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| MC6 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| MC7 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| MC8 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| MC9 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| MIC1 | 0903-001144 | IC-MICROCONTROLLER;93CM41,8BIT,QFP,100P, | |
| MIC2 | 0801-002207 | IC-CMOS LOGIC;74AC573,LATCH,SOP,20P,300M | |
| MIC5 | 1103-001133 | IC-EEPROM;24C020,256x8BIT,SOP,8P,150MIL, | |
| MIC6 | 0801-002143 | IC-CMOS LOGIC;7S32,OR GATE,SOT-25,5P,63M | |
| MIC7 | 0801-000379 | IC-CMOS LOGIC;74HC00,NAND GATE,SOP,14P,1 | |
| MIC8 | S.N.A. | IC-EPROM;27C081,1MX8BIT,DIP,32P,600MIL,1 | |
| MIC8A | 3704-000472 | SOCKET-IC;32P,DIP,SN,2.54mm | |
| ML1 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| MQ1 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| MR1 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| MR10 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| MR12 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR13 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR14 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR15 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR16 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR17 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR18 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR19 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR2 | 2007-000109 | R-CHIP;1Mohm,5%,1/16W,DA,TP,1608 | |
| MR22 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR23 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR24 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR25 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| MR3 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| MR33 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| MR34 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| MR35 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| MR36 | 2007-000124 | R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608 | |
| MR37 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| MR38 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| MR39 | 2007-000103 | R-CHIP;120Kohm,5%,1/16W,DA,TP,1608 | |
| MR4 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| MR40 | 2007-000402 | R-CHIP;150ohm,5%,1/16W,DA,TP,1608 | |
| MR43 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| MR5 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| MR6 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| MR7 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| MR8 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| MR9 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| MXTAL1 | 2801-000199 | CRYSTAL-UNIT;20MHz,50ppm,28-AAA,16pF,50o | |
| PC1 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| PC2 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| PC3 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| PC4 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| PE1 | 2401-002165 | C-AL;100uF,20%,16V,GP,TP,6.3x7,5 | |
| PE2 | 2401-002165 | C-AL;100uF,20%,16V,GP,TP,6.3x7,5 | |
| PE3 | 2401-002165 | C-AL;100uF,20%,16V,GP,TP,6.3x7,5 | |
| PE4 | 2401-002165 | C-AL;100uF,20%,16V,GP,TP,6.3x7,5 | |
| RC1 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC10 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608, | |
| RC11 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC12 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| RC13 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| RC14 | 2203-000440 | C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,1608,- | |
| RC15 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC16 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC17 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC2 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC20 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC21 | 2203-000384 | C-CERAMIC,CHIP;15pF,5%,50V,NPO,TP,1608,- | |
| RC22 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC23 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC24 | 2203-001697 | C-CERAMIC,CHIP;.082NF,5%,50V,NPO,TP,1608 | |
| RC25 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC26 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC27 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC28 | 2203-001052 | C-CERAMIC,CHIP;560pF,10%,50V,X7R,TP,1608 | |
| RC29 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC3 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC31 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC32 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC33 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC34 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC35 | 2203-000236 | C-CERAMIC,CHIP;100pF,5%,50V,NPO,TP,1608, | |
| RC36 | 2203-000140 | C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,TP,1608 | |
| RC37 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC38 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC39 | 2203-000531 | C-CERAMIC,CHIP;2.7nF,10%,50V,X7R,TP,1608 | |
| RC4 | 2203-000236 | C-CERAMIC,CHIP;100pF,5%,50V,NPO,TP,1608, | |
| RC40 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608, | |
| RC41 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC42 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC43 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC44 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC45 | 2203-001652 | C-CERAMIC,CHIP;470NF,+80-20%,16V,Y5V,TP, | |
| RC46 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| RC47 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC5 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC50 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC51 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC52 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC53 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC54 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| RC55 | 2203-000888 | C-CERAMIC,CHIP;4.7nF,10%,50V,X7R,TP,1608 | |
| RC6 | 2203-001052 | C-CERAMIC,CHIP;560pF,10%,50V,X7R,TP,1608 | |
| RC7 | 2203-001640 | C-CERAMIC,CHIP;390pF,10%,50V,X7R,TP,1608 | |
| RC8 | 2203-000384 | C-CERAMIC,CHIP;15pF,5%,50V,NPO,TP,1608,- | |
| RC9 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608, | |
| RD1 | 0401-000008 | DIODE-SWITCHING;DAN217,80V,100mA,SOT-23, | |
| RD2 | 0403-001079 | DIODE-ZENER;UDZ3.9B,7%,200MW,SOD-323,TP | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| RD6 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| RD7 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| RE10 | 2401-002036 | C-AL;1uF,20%,50V,GP,TP,5x11,2.5mm | |
| RE11 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | |
| RE12 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| RE13 | 2401-000414 | C-AL;10uF,20%,16V,GP,TP,4x7,5 | |
| RE17 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| RE2 | 2401-000414 | C-AL;10uF,20%,16V,GP,TP,4x7,5 | |
| RE8 | 2401-000414 | C-AL;10uF,20%,16V,GP,TP,4x7,5 | |
| RE9 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| RIC1 | AH13-10030M | IC-ASIC;-,KS1461,VQFP,100P,RF IC | |
| RIC2 | 0801-002279 | IC-CMOS LOGIC;74VHC4053,MUX,SOP,16P,150M | |
| RIC3 | 1202-000121 | IC-VOLTAGE COMP.;2903,SOP,8P,150MIL,DUAL | |
| RIC4 | 1201-000163 | IC-OP AMP;4560,SOP,8P,150MIL,DUAL,100V/M | |
| RIC6 | 0801-002097 | IC-CMOS LOGIC;7SET08,AND GATE,SOP,5P,110 | |
| RL2 | 2703-000398 | INDUCTOR-SMD;10UH,10%,3.2X2.5X2.2MM | |
| RL3 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| RL4 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| RQ1 | 0501-000279 | TR-SMALL SIGNAL;KSA1182-Y,PNP,150mW,SOT- | |
| RQ2 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| RR1 | 2007-000091 | R-CHIP;12Kohm,5%,1/16W,DA,TP,1608 | |
| RR10 | 2007-001179 | R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608 | |
| RR11 | 2007-000509 | R-CHIP;2.4Kohm,1%,1/16W,DA,TP,1608 | |
| RR12 | 2007-000093 | R-CHIP;20Kohm,5%,1/16W,DA,TP,1608 | |
| RR13 | 2007-001179 | R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608 | |
| RR14 | 2007-000091 | R-CHIP;12Kohm,5%,1/16W,DA,TP,1608 | |
| RR15 | 2007-001179 | R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608 | |
| RR16 | 2007-000704 | R-CHIP;3.6Kohm,5%,1/16W,DA,TP,1608 | |
| RR17 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| RR18 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR19 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR2 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| RR20 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| RR21 | 2007-000081 | R-CHIP;2.7Kohm,5%,1/16W,DA,TP,1608 | |
| RR22 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR23 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR24 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| RR25 | 2007-000091 | R-CHIP;12Kohm,5%,1/16W,DA,TP,1608 | |
| RR26 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| RR27 | 2007-000130 | R-CHIP;39Kohm,5%,1/16W,DA,TP,1608 | |
| RR28 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| RR29 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| RR3 | 2007-000091 | R-CHIP;12Kohm,5%,1/16W,DA,TP,1608 | |
| RR30 | 2007-000091 | R-CHIP;12Kohm,5%,1/16W,DA,TP,1608 | |
| RR31 | 2007-001179 | R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608 | |
| RR32 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR32A | 2007-000108 | R-CHIP;510Kohm,5%,1/16W,DA,TP,1608 | |
| RR33 | 2007-000082 | R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608 | |
| RR34 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| RR35 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| RR36 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR37 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR38 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR39 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR4 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| RR40 | 2007-000129 | R-CHIP;27Kohm,5%,1/16W,DA,TP,1608 | |
| RR41 | 2007-000708 | R-CHIP;3.9Kohm,1%,1/16W,DA,TP,1608 | |
| RR42 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| RR43 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| RR44 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| RR45 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| RR46 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| RR47 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR48 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR49 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| RR5 | 2007-001056 | R-CHIP;6.2Kohm,5%,1/16W,DA,TP,1608 | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| RR50 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| RR51 | 2007-000134 | R-CHIP;33Kohm,5%,1/16W,DA,TP,1608 | |
| RR52 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| RR53 | 2007-001179 | R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608 | |
| RR56 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| RR57 | 2007-000088 | R-CHIP;7.5Kohm,5%,1/16W,DA,TP,1608 | |
| RR58 | 2007-000091 | R-CHIP;12Kohm,5%,1/16W,DA,TP,1608 | |
| RR59 | 2007-000082 | R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608 | |
| RR6 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| RR62 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| RR63 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| RR65 | 2007-000082 | R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608 | |
| RR67 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| RR68 | 2007-000129 | R-CHIP;27Kohm,5%,1/16W,DA,TP,1608 | |
| RR69 | 2007-000091 | R-CHIP;12Kohm,5%,1/16W,DA,TP,1608 | |
| RR69A | 2007-000431 | R-CHIP;16Kohm,5%,1/16W,DA,TP,1608 | |
| RR7 | 2007-000072 | R-CHIP;47ohm,5%,1/16W,DA,TP,1608 | |
| RR70 | 2007-000134 | R-CHIP;33Kohm,5%,1/16W,DA,TP,1608 | |
| RR71 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| RR8 | 2007-000077 | R-CHIP;470ohm,5%,1/16W,DA,TP,1608 | |
| RR9 | 2007-000783 | R-CHIP;33OHM,5%,1/8W,DA,TP,3216 | |
| SC1 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| SC10 | 2203-001222 | C-CERAMIC,CHIP;820pF,10%,50V,X7R,TP,1608 | |
| SC11 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| SC14 | 2203-000491 | C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608 | |
| SC15 | 2203-000491 | C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608 | |
| SC16 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| SC17 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| SC18 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| SC19 | 2203-000140 | C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,TP,1608 | |
| SC2 | 2203-001573 | C-CERAMIC,CHIP;12pF,5%,50V,CH,1608,1.6mm | |
| SC20 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| SC21 | 2203-001567 | C-CERAMIC,CHIP;10pF,0.5pF,50V,CH,1608,1. | |
| SC26 | 2203-002398 | C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,1608, | |
| SC29 | 2203-000372 | C-CERAMIC,CHIP;15nF,10%,50V,X7R,TP,1608, | |
| SC3 | 2203-001573 | C-CERAMIC,CHIP;12pF,5%,50V,CH,1608,1.6mm | |
| SC30 | 2203-000372 | C-CERAMIC,CHIP;15nF,10%,50V,X7R,TP,1608, | |
| SC31 | 2203-000491 | C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608 | |
| SC32 | 2203-000491 | C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608 | |
| SC33 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| SC34 | 2203-000405 | C-CERAMIC,CHIP;180pF,5%,50V,NPO,TP,1608, | |
| SC36 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| SC37 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| SC38 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| SC39 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| SC4 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| SC5 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| SC6 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| SC7 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| SC9 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| SD2 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| SD3 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| SE1 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| SE2 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| SE3 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| SE4 | 2401-000240 | C-AL;100uF,20%,10V,GP,TP,5x11,5 | |
| SE5 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | |
| SIC1 | AH13-10030N | IC-ASIC;-,KS1452,QFP,80P,DSSP IC | |
| SIC2 | 0801-002097 | IC-CMOS LOGIC;7SET08,AND GATE,SOP,5P,110 | |
| SIC3 | 0801-002097 | IC-CMOS LOGIC;7SET08,AND GATE,SOP,5P,110 | |
| SIC8 | 1202-000121 | IC-VOLTAGE COMP.;2903,SOP,8P,150MIL,DUAL | |
| SL2 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| SL3 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| SL4 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| SQ1 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| SR1 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| SR10 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| SR11 | 2007-000107 | R-CHIP;470Kohm,5%,1/16W,DA,TP,1608 | |
| SR12 | 2007-001235 | R-CHIP;910Kohm,5%,1/16W,DA,TP,1608 | |
| SR13 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| SR14 | 2007-000450 | R-CHIP;180ohm,5%,1/16W,DA,TP,1608 | |
| SR15 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| SR16 | 2007-000131 | R-CHIP;91Kohm,5%,1/16W,DA,TP,1608 | |
| SR17 | 2007-000093 | R-CHIP;20Kohm,5%,1/16W,DA,TP,1608 | |
| SR18 | 2007-000093 | R-CHIP;20Kohm,5%,1/16W,DA,TP,1608 | |
| SR19 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| SR2 | 2007-000109 | R-CHIP;1Mohm,5%,1/16W,DA,TP,1608 | |
| SR20 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| SR21 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| SR22 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| SR23 | 2007-000130 | R-CHIP;39Kohm,5%,1/16W,DA,TP,1608 | |
| SR24 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| SR26 | 2007-000091 | R-CHIP;12Kohm,5%,1/16W,DA,TP,1608 | |
| SR3 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| SR31 | 2007-000080 | R-CHIP;2Kohm,5%,1/16W,DA,TP,1608 | |
| SR32 | 2007-000080 | R-CHIP;2Kohm,5%,1/16W,DA,TP,1608 | |
| SR33 | 2007-000080 | R-CHIP;2Kohm,5%,1/16W,DA,TP,1608 | |
| SR34 | 2007-000124 | R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608 | |
| SR35 | 2007-000124 | R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608 | |
| SR36 | 2007-000124 | R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608 | |
| SR37 | 2007-000124 | R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608 | |
| SR38 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| SR39 | 2007-000458 | R-CHIP;18Kohm,5%,1/16W,DA,TP,1608 | |
| SR4 | 2007-001179 | R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608 | |
| SR40 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| SR42 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| SR44 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| SR45 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| SR46 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| SR47 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| SR48 | 2007-000109 | R-CHIP;1Mohm,5%,1/16W,DA,TP,1608 | |
| SR49 | 2007-000109 | R-CHIP;1Mohm,5%,1/16W,DA,TP,1608 | |
| SR5 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| SR50 | 2007-000082 | R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608 | |
| SR51 | 2007-000082 | R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608 | |
| SR52 | 2007-000704 | R-CHIP;3.6Kohm,5%,1/16W,DA,TP,1608 | |
| SR53 | 2007-000123 | R-CHIP;1.5Kohm,5%,1/16W,DA,TP,1608 | |
| SR54 | 2007-000077 | R-CHIP;470ohm,5%,1/16W,DA,TP,1608 | |
| SR6 | 2007-000098 | R-CHIP;56Kohm,5%,1/16W,DA,TP,1608 | |
| SR7 | 2007-000799 | R-CHIP;360ohm,5%,1/16W,DA,TP,1608 | |
| SR8 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| SR9 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| SY1 | 2801-000261 | CRYSTAL-UNIT;33.8688MHZ,50PPM,28-AAA,12P | |
| VC1 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC10 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC11 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC12 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC13 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC14 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC15 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC16 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC17 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC18 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC19 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC20 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC21 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC22 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC23 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC24 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC25 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC26 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC27 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| VC28 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC29 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC3 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC30 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC31 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC32 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC33 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC34 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC35 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC36 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| VC37 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| VC38 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| VC39 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| VC4 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC40 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| VC41 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| VC42 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC43 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC44 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC45 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC47 | 2203-000626 | C-CERAMIC,CHIP;22pF,5%,50V,NPO,TP,1608,- | |
| VC48 | 2203-000681 | C-CERAMIC,CHIP;27pF,5%,50V,NPO,1608,-,TP | |
| VC5 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC50 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| VC51 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| VC52 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| VC53 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| VC54 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| VC55 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| VC6 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC61 | 2203-001636 | C-CERAMIC,CHIP;33pF,5%,50V,NPO,TP,1608,1 | |
| VC62 | 2203-001636 | C-CERAMIC,CHIP;33pF,5%,50V,NPO,TP,1608,1 | |
| VC65 | 2203-001636 | C-CERAMIC,CHIP;33pF,5%,50V,NPO,TP,1608,1 | |
| VC66 | 2203-001636 | C-CERAMIC,CHIP;33pF,5%,50V,NPO,TP,1608,1 | |
| VC67 | 2203-001636 | C-CERAMIC,CHIP;33pF,5%,50V,NPO,TP,1608,1 | |
| VC68 | 2203-001636 | C-CERAMIC,CHIP;33pF,5%,50V,NPO,TP,1608,1 | |
| VC69 | 2203-000626 | C-CERAMIC,CHIP;22pF,5%,50V,NPO,TP,1608,- | |
| VC7 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC70 | 2203-000626 | C-CERAMIC,CHIP;22pF,5%,50V,NPO,TP,1608,- | |
| VC71 | 2203-000626 | C-CERAMIC,CHIP;22pF,5%,50V,NPO,TP,1608,- | |
| VC72 | 2203-000626 | C-CERAMIC,CHIP;22pF,5%,50V,NPO,TP,1608,- | |
| VC73 | 2203-000626 | C-CERAMIC,CHIP;22pF,5%,50V,NPO,TP,1608,- | |
| VC74 | 2203-000626 | C-CERAMIC,CHIP;22pF,5%,50V,NPO,TP,1608,- | |
| VC75 | 2203-000626 | C-CERAMIC,CHIP;22pF,5%,50V,NPO,TP,1608,- | |
| VC76 | 2203-000626 | C-CERAMIC,CHIP;22pF,5%,50V,NPO,TP,1608,- | |
| VC77 | 2203-000626 | C-CERAMIC,CHIP;22pF,5%,50V,NPO,TP,1608,- | |
| VC78 | 2203-000626 | C-CERAMIC,CHIP;22pF,5%,50V,NPO,TP,1608,- | |
| VC8 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VC81 | 2203-000851 | C-CERAMIC,CHIP;39pF,5%,50V,NPO,TP,1608,- | |
| VC82 | 2203-000851 | C-CERAMIC,CHIP;39pF,5%,50V,NPO,TP,1608,- | |
| VC83 | 2203-001071 | C-CERAMIC,CHIP;56pF,5%,50V,NPO,TP,1608,- | |
| VC84 | 2203-000236 | C-CERAMIC,CHIP;100pF,5%,50V,NPO,TP,1608, | |
| VC85 | 2203-000236 | C-CERAMIC,CHIP;100pF,5%,50V,NPO,TP,1608, | |
| VC9 | 2203-000189 | C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP, | |
| VE1 | 2401-002165 | C-AL;100uF,20%,16V,GP,TP,6.3x7,5 | |
| VE2 | 2401-002165 | C-AL;100uF,20%,16V,GP,TP,6.3x7,5 | |
| VIC1 | 1204-001438 | IC-DECODER;ZIVA-3,VQFP,208P,1098MIL,PLAS | |
| VIC10 | 1105-001165 | IC-SDRAM;416S1020,512Kx16BITx2,TSOP,50P | NTSC |
| VIC10 | 1105-001259 | IC-DRAM;416S1020,16BIT,TSOP,50P,400MIL,8 | PAL |
| VIC3 | 0801-002097 | IC-CMOS LOGIC;7SET08,AND GATE,SOP,5P,110 | |
| VIC4 | 1105-001165 | IC-SDRAM;416S1020,512Kx16BITx2,TSOP,50P | NTSC |
| VIC4 | 1105-001259 | IC-DRAM;416S1020,16BIT,TSOP,50P,400MIL,8 | PAL |
| VIC6 | AH14-10004R | IC;M74HCU04,SOP,TAPE 14P | |
| VL1 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL10 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| VL11 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL12 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL13 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL14 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL15 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL16 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL17 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL18 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL19 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL2 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL20 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL21 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL22 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL23 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL24 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL25 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL26 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL27 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL28 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL29 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL3 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL4 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL5 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL6 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VR10 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| VR100 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR101 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR102 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| VR103 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| VR104 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| VR2 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| VR21 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| VR22 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| VR23 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| VR24 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| VR25 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| VR26 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| VR27 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| VR28 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| VR3 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR30 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| VR31 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| VR32 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| VR33 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| VR34 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| VR35 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| VR36 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| VR37 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| VR38 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| VR39 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| VR4 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| VR40 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| VR41 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| VR42 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR43 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR44 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR45 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR46 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR47 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR48 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR49 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR50 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR51 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR52 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR54 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR55 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR56 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| VR57 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| VR58 | 2007-000075 | R-CHIP;220ohm,5%,1/16W,DA,TP,1608 | |
| VR59 | 2007-000075 | R-CHIP;220ohm,5%,1/16W,DA,TP,1608 | |
| VR60 | 2007-000075 | R-CHIP;220ohm,5%,1/16W,DA,TP,1608 | |
| VR61 | 2007-000075 | R-CHIP;220ohm,5%,1/16W,DA,TP,1608 | |
| VR62 | 2007-000075 | R-CHIP;220ohm,5%,1/16W,DA,TP,1608 | |
| VR63 | 2007-000075 | R-CHIP;220ohm,5%,1/16W,DA,TP,1608 | |
| VR64 | 2007-000075 | R-CHIP;220ohm,5%,1/16W,DA,TP,1608 | |
| VR65 | 2007-000075 | R-CHIP;220ohm,5%,1/16W,DA,TP,1608 | |
| VR66 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR67 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR68 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR69 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR7 | 2007-000116 | R-CHIP;120ohm,5%,1/16W,DA,TP,1608 | |
| VR70 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR71 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR72 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR73 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR74 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR75 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR76 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR77 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR78 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR79 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR80 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR81 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| VR82 | 2007-000402 | R-CHIP;150ohm,5%,1/16W,DA,TP,1608 | |
| VR83 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR84 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR85 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR86 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR87 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR88 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR89 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR9 | 2007-000109 | R-CHIP;1Mohm,5%,1/16W,DA,TP,1608 | |
| VR90 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR91 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR92 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR93 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR94 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR95 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR96 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR97 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR98 | 2007-001134 | R-CHIP;68ohm,5%,1/16W,DA,TP,1608 | |
| VR99 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| VY1 | 2801-003554 | CRYSTAL-UNIT;27MHz,10ppm,28-AAM,12pF,40o | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| **602** | | **ASSY-PCB-JACK** | |
| AC1 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| AC10 | 2203-000444 | C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,- | |
| AC11 | 2202-000806 | C-CERAMIC,MLC-AXIAL;220pF,10%,50V,Y5P,TP | |
| AC12 | 2203-000595 | C-CERAMIC,CHIP;220pF,5%,50V,NPO,TP,2012, | |
| AC16 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | DVD-909 ONLY |
| AC17 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | DVD-909 ONLY |
| AC18 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V, | DVD-909 ONLY |
| AC19 | 2203-000444 | C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,- | DVD-909 ONLY |
| AC2 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| AC20 | 2203-000595 | C-CERAMIC,CHIP;220pF,5%,50V,NPO,TP,2012, | DVD-909 ONLY |
| AC21 | 2203-000595 | C-CERAMIC,CHIP;220pF,5%,50V,NPO,TP,2012, | DVD-909 ONLY |
| AC22 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | DVD-909 ONLY |
| AC23 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | DVD-909 ONLY |
| AC25 | 2203-000444 | C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,- | DVD-909 ONLY |
| AC26 | 2202-000806 | C-CERAMIC,MLC-AXIAL;220pF,10%,50V,Y5P,TP | DVD-909 ONLY |
| AC27 | 2203-000595 | C-CERAMIC,CHIP;220pF,5%,50V,NPO,TP,2012, | DVD-909 ONLY |
| AC29 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | DVD-909 ONLY |
| AC3 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| AC30 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | DVD-909 ONLY |
| AC31 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | DVD-909 ONLY |
| AC32 | 2203-000444 | C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,- | DVD-909 ONLY |
| AC33 | 2203-000595 | C-CERAMIC,CHIP;220pF,5%,50V,NPO,TP,2012, | DVD-909 ONLY |
| AC34 | 2203-000595 | C-CERAMIC,CHIP;220pF,5%,50V,NPO,TP,2012, | DVD-909 ONLY |
| AC35 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | DVD-909 ONLY |
| AC36 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | DVD-909 ONLY |
| AC38 | 2203-000444 | C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,- | DVD-909 ONLY |
| AC39 | 2202-000806 | C-CERAMIC,MLC-AXIAL;220pF,10%,50V,Y5P,TP | DVD-909 ONLY |
| AC4 | 2203-000444 | C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,- | |
| AC40 | 2203-000595 | C-CERAMIC,CHIP;220pF,5%,50V,NPO,TP,2012, | DVD-909 ONLY |
| AC42 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | DVD-909 ONLY |
| AC43 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | DVD-909 ONLY |
| AC44 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | DVD-909 ONLY |
| AC45 | 2203-000444 | C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,- | DVD-909 ONLY |
| AC46 | 2203-000595 | C-CERAMIC,CHIP;220pF,5%,50V,NPO,TP,2012, | DVD-909 ONLY |
| AC47 | 2203-000595 | C-CERAMIC,CHIP;220pF,5%,50V,NPO,TP,2012, | DVD-909 ONLY |
| AC48 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | DVD-909 ONLY |
| AC49 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | DVD-909 ONLY |
| AC5 | 2203-000595 | C-CERAMIC,CHIP;220pF,5%,50V,NPO,TP,2012, | |
| AC51 | 2203-000444 | C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,- | DVD-909 ONLY |
| AC52 | 2202-000806 | C-CERAMIC,MLC-AXIAL;220pF,10%,50V,Y5P,TP | DVD-909 ONLY |
| AC53 | 2203-000595 | C-CERAMIC,CHIP;220pF,5%,50V,NPO,TP,2012, | DVD-909 ONLY |
| AC56 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| AC57 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | DVD-909 ONLY |
| AC58 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| AC59 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| AC6 | 2203-000595 | C-CERAMIC,CHIP;220pF,5%,50V,NPO,TP,2012, | |
| AC60 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| AC61 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | DVD-909 ONLY |
| AC7 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| AC71 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| AC73 | 2301-000161 | C-FILM,PEF;12nF,5%,50V,6.5X5.5X3.0X5,5mm | |
| AC74 | 2301-000161 | C-FILM,PEF;12nF,5%,50V,6.5X5.5X3.0X5,5mm | |
| AC75 | 2301-000161 | C-FILM,PEF;12nF,5%,50V,6.5X5.5X3.0X5,5mm | DVD-909 ONLY |
| AC76 | 2301-000161 | C-FILM,PEF;12nF,5%,50V,6.5X5.5X3.0X5,5mm | DVD-909 ONLY |
| AC77 | 2301-000161 | C-FILM,PEF;12nF,5%,50V,6.5X5.5X3.0X5,5mm | DVD-909 ONLY |
| AC78 | 2301-000161 | C-FILM,PEF;12nF,5%,50V,6.5X5.5X3.0X5,5mm | DVD-909 ONLY |
| AC79 | 2301-000161 | C-FILM,PEF;12nF,5%,50V,6.5X5.5X3.0X5,5mm | DVD-909 ONLY |
| AC8 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| AC80 | 2301-000161 | C-FILM,PEF;12nF,5%,50V,6.5X5.5X3.0X5,5mm | DVD-909 ONLY |
| AC90 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | |
| AC91 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | DVD-909 ONLY |
| AC92 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | DVD-909 ONLY |
| AC93 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | DVD-909 ONLY |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| AC94 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | |
| AC95 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | |
| AC98 | 2203-000361 | C-CERAMIC,CHIP;150pF,5%,50V,NPO,TP,2012, | |
| AD1 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| AD10 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3, | DVD-909 ONLY |
| AD12 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3 | DVD-909 ONLY |
| AD13 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3, | DVD-909 ONLY |
| AD14 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3, | DVD-909 ONLY |
| AD15 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3, | DVD-909 ONLY |
| AD2 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| AD3 | 0407-000116 | DIODE-ARRAY;DAP202K,80V,100mA,CK2-3, | DVD-909 ONLY |
| AD4 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| AD5 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| AD6 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| AD7 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| AD8 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3, | DVD-909 ONLY |
| AD9 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3, | DVD-909 ONLY |
| AE1 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| AE10 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| AE11 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| AE12 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | DVD-909 ONLY |
| AE13 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | DVD-909 ONLY |
| AE14 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | DVD-909 ONLY |
| AE15 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | DVD-909 ONLY |
| AE16 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | DVD-909 ONLY |
| AE17 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | DVD-909 ONLY |
| AE18 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | DVD-909 ONLY |
| AE19 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | DVD-909 ONLY |
| AE2 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| AE20 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | DVD-909 ONLY |
| AE21 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | DVD-909 ONLY |
| AE22 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | DVD-909 ONLY |
| AE23 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | DVD-909 ONLY |
| AE24 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | DVD-909 ONLY |
| AE25 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | DVD-909 ONLY |
| AE26 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | DVD-909 ONLY |
| AE27 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | DVD-909 ONLY |
| AE28 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | DVD-909 ONLY |
| AE29 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | DVD-909 ONLY |
| AE3 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| AE30 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| AE31 | 2401-001969 | C-AL;470uF,20%,25V,GP,TP,10x12.5,5 | |
| AE32 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | DVD-909 ONLY |
| AE33 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | DVD-909 ONLY |
| AE34 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | DVD-909 ONLY |
| AE35 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | DVD-909 ONLY |
| AE36 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | DVD-909 ONLY |
| AE37 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | DVD-909 ONLY |
| AE38 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | DVD-909 ONLY |
| AE39 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | DVD-909 ONLY |
| AE4 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | |
| AE40 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | DVD-909 ONLY |
| AE5 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | |
| AE6 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | |
| AE7 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | |
| AE8 | 2401-002068 | C-AL;33uF,20%,16V,GP,TP,5x11,5 | |
| AE9 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | |
| AIC1 | 1002-001129 | IC-D/A CONVERTER;AK4324VF,24BIT,VSOP,24P | |
| AIC2 | 1002-001129 | IC-D/A CONVERTER;AK4324VF,24BIT,VSOP,24P | DVD-909 ONLY |
| AIC3 | 1002-001129 | IC-D/A CONVERTER;AK4324VF,24BIT,VSOP,24P | DVD-909 ONLY |
| AIC4 | 1002-001129 | IC-D/A CONVERTER;AK4324VF,24BIT,VSOP,24P | DVD-909 ONLY |
| AIC5 | AH14-10004R | IC;M74HCU04,SOP,TAPE 14P | |
| AL1 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| AL11 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | DVD-909 ONLY |
| AL12 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | DVD-909 ONLY |
| AL15 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | DVD-909 ONLY |
| AL16 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | DVD-909 ONLY |
| AL19 | 2901-001125 | FILTER-EMI ON BOARD;50V,0.5A,-,220pF,7x7 | |
| AL2 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| AL20 | 2901-001125 | FILTER-EMI ON BOARD;50V,0.5A,-,220pF,7x7 | DVD-909 ONLY |
| AL21 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | DVD-909 ONLY |
| AL22 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | DVD-909 ONLY |
| AL5 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| AL6 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| AL7 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | DVD-909 ONLY |
| AL8 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | DVD-909 ONLY |
| AOP1 | 1201-000163 | IC-OP AMP;4560,SOP,8P,150MIL,DUAL,100V/M | |
| AOP2 | 1201-000163 | IC-OP AMP;4560,SOP,8P,150MIL,DUAL,100V/M | DVD-909 ONLY |
| AOP3 | 1201-000163 | IC-OP AMP;4560,SOP,8P,150MIL,DUAL,100V/M | DVD-909 ONLY |
| AOP4 | 1201-000163 | IC-OP AMP;4560,SOP,8P,150MIL,DUAL,100V/M | DVD-909 ONLY |
| AOP5 | 1201-000163 | IC-OP AMP;4560,SOP,8P,150MIL,DUAL,100V/M | |
| AQ1 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT- | |
| AQ10 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW, | DVD-909 ONLY |
| AQ11 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW, | DVD-909 ONLY |
| AQ12 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW, | DVD-909 ONLY |
| AQ13 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW, | DVD-909 ONLY |
| AQ14 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW, | DVD-909 ONLY |
| AQ15 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW, | DVD-909 ONLY |
| AQ16 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW, | DVD-909 ONLY |
| AQ17 | 0504-000118 | TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO- | |
| AQ18 | 0504-000118 | TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO- | |
| AQ19 | 0504-001003 | TR-DIGITAL;KSR2003,PNP,300MW,22K/22K,TO- | |
| AQ2 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT- | |
| AQ20 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K | |
| AQ21 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| AQ22 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K | |
| AQ23 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | DVD-909 ONLY |
| AQ24 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K | DVD-909 ONLY |
| AQ25 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | DVD-909 ONLY |
| AQ26 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K | DVD-909 ONLY |
| AQ27 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | DVD-909 ONLY |
| AQ28 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K | DVD-909 ONLY |
| AQ29 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | DVD-909 ONLY |
| AQ3 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT- | |
| AQ30 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K | DVD-909 ONLY |
| AQ31 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | DVD-909 ONLY |
| AQ32 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K | DVD-909 ONLY |
| AQ33 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| AQ4 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT- | |
| AQ5 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW, | DVD-909 ONLY |
| AQ6 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW, | DVD-909 ONLY |
| AQ7 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW, | DVD-909 ONLY |
| AQ8 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW, | DVD-909 ONLY |
| AQ9 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW, | DVD-909 ONLY |
| AR1 | 2007-000290 | R-CHIP;100OHM,5%,1/10W,DA,TP,2012 | |
| AR10 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR100 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR101 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3. | DVD-909 ONLY |
| AR104 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3. | DVD-909 ONLY |
| AR106 | 2007-000766 | R-CHIP;330OHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR107 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3. | DVD-909 ONLY |
| AR108 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3. | DVD-909 ONLY |
| AR109 | 2001-000331 | R-CARBON;12KOHM,5%,1/8W,AA,TP,1.8X3. | DVD-909 ONLY |
| AR11 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR110 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR111 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR112 | 2007-000355 | R-CHIP;12KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR113 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3. | DVD-909 ONLY |
| AR116 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3. | DVD-909 ONLY |
| AR118 | 2007-000766 | R-CHIP;330OHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR119 | 2007-000766 | R-CHIP;330OHM,5%,1/10W,DA,TP,2012 | |
| AR12 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| AR121 | 2007-001247 | R-CHIP;91OHM,5%,1/10W,DA,TP,2012 | |
| AR13 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | |
| AR130 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR131 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3. | DVD-909 ONLY |
| AR132 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3. | DVD-909 ONLY |
| AR133 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3. | DVD-909 ONLY |
| AR134 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR138 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| AR14 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | |
| AR15 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR150 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR151 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR152 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR153 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR154 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR155 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR156 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR18 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR19 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR2 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR20 | 2001-000003 | R-CARBON;330OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR21 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR22 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR23 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR24 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | |
| AR25 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | |
| AR26 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | |
| AR27 | 2007-000300 | R-CHIP;10KOHM,5%,1/10W,DA,TP,2012 | |
| AR28 | 2001-000003 | R-CARBON;330OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR29 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR30 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR31 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR32 | 2007-000766 | R-CHIP;330OHM,5%,1/10W,DA,TP,2012 | |
| AR33 | 2007-000308 | R-CHIP;10OHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR34 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR35 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR36 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR37 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR38 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR39 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR40 | 2007-000300 | R-CHIP;10KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR41 | 2001-000003 | R-CARBON;330OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR42 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR43 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR44 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR45 | 2007-000766 | R-CHIP;330OHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR46 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR47 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR48 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR49 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR50 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR51 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR52 | 2007-000300 | R-CHIP;10KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR53 | 2001-000003 | R-CARBON;330OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR54 | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR55 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR56 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR57 | 2007-000766 | R-CHIP;330OHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR58 | 2007-000308 | R-CHIP;10OHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR59 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR60 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR61 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR62 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR63 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR64 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR65 | 2007-000300 | R-CHIP;10KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR66 | 2001-000003 | R-CARBON;330OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR67 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR68 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR69 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR70 | 2007-000766 | R-CHIP;330OHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR71 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR72 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR73 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR74 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR75 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR76 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR77 | 2007-000300 | R-CHIP;10KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR78 | 2001-000003 | R-CARBON;330OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR79 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR8 | 2007-000308 | R-CHIP;10OHM,5%,1/10W,DA,TP,2012 | |
| AR80 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR81 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR82 | 2007-000766 | R-CHIP;330OHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR83 | 2001-000003 | R-CARBON;330OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR84 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR85 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR86 | 2001-000003 | R-CARBON;330OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR87 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR88 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR89 | 2001-000003 | R-CARBON;330OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR9 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | |
| AR90 | 2001-000241 | R-CARBON;1.5KOHM,5%,1/8W,AA,TP,1.8X3 | |
| AR91 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3 | |
| AR92 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3 | |
| AR93 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR94 | 2007-000308 | R-CHIP;10OHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR95 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR96 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR97 | 2001-000878 | R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| AR98 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AR99 | 2007-001055 | R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012 | DVD-909 ONLY |
| AVJ1 | 3722-001355 | JACK-RCA;3P(4P),3.2MM,NI,GRN/RED/ | DVD-909 NTSC ONLY |
| AVJ2 | 3722-001353 | JACK-RCA;6P,3.2MM,NI,YEL/WHT/RED,- | DVD-909 ONLY |
| AVJ3 | 3722-001352 | JACK-RCA;6P,3.2MM,NI,BLK/WHT/RED,- | DVD-909 ONLY |
| AVJ4 | 3722-001053 | JACK-RCA;1P,3.2mm,NI,BLK,- | |
| AVJ5 | 3707-001005 | CONNECTOR-OPTICAL;PLUG,SM,-,4.4/2.0MM | DVD-909 ONLY |
| AZD1 | 0403-000551 | DIODE-ZENER;MTZ3.9B,3.9V,3.89-4.16V,500m | |
| CN11 | 3708-000277 | CONNECTOR-FPC/FC/PIC;35P,1.25mm,ANGLE,SN | |
| CN12 | AH39-00035A | LEAD CONNECTOR-ASSY;-,5264-08,35023-08,8 | |
| CN15 | 3711-000665 | CONNECTOR-HEADER;BOX,12P,1R,2mm,ANGLE | DVD-909 ONLY |
| CN17 | AH39-00037A | LEAD CONNECTOR-ASSY;-,51004-06,35023-06, | DVD-909 ONLY |
| CN18 | 3711-000967 | CONNECTOR-HEADER;BOX,4P,1R,2mm,ANGLE,SN | |
| FC1 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| FC10 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| FC14 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| FC15 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| FC16 | 2202-000173 | C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,1 | |
| FC2 | 2203-000389 | C-CERAMIC,CHIP;15pF,5%,50V,NPO,TP,2012,- | |
| FC3 | 2203-000389 | C-CERAMIC,CHIP;15pF,5%,50V,NPO,TP,2012,- | |
| FC4 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| FC6 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| FD10 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| FD6 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| FD7 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| FD8 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| FD9 | 0403-000551 | DIODE-ZENER;MTZ3.9B,3.9V,3.89-4.16V,500m | |
| FE1 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | |
| FE12 | 2401-000240 | C-AL;100uF,20%,10V,GP,TP,5x11,5 | |
| FE13 | 2401-000240 | C-AL;100uF,20%,10V,GP,TP,5x11,5 | |
| FE2 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| FE5 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| FE8 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| FIC1 | AH09-00010A | IC-MICOM MASKING;LC866232,100PIN,QIP,FLT | |
| FIC2 | 1203-001252 | IC-VOL. DETECTOR;7545,TO-92,3P,-,PLASTIC | |
| FIC3 | 0801-002166 | IC-CMOS LOGIC;7SHU04,INVERTER,SSOP,5P,63 | |
| FIC4 | AH59-60010A | MODULE-REMOCON;-,GP1U281Q,38KHZ,940,MESH | |
| FL1 | 2701-000114 | INDUCTOR-AXIAL;10uH,10%,2.5x3.4mm | |
| FL2 | 2701-000113 | INDUCTOR-AXIAL;100uH,5%,2.5x3.4mm | |
| FR1 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR10 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR101 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR102 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR103 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR104 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR105 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR106 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR11 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR12 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR13 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR16 | 2001-000027 | R-CARBON;100OHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| FR17 | 2001-000027 | R-CARBON;100OHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| FR18 | 2001-000449 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR19 | 2001-000449 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR20 | 2001-000449 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR21 | 2001-000435 | R-CARBON;1MOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR24 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR25 | 2001-000780 | R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR26 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR31 | 2007-000282 | R-CHIP;100KOHM,5%,1/10W,DA,TP,2012 | |
| FR32 | 2007-000282 | R-CHIP;100KOHM,5%,1/10W,DA,TP,2012 | |
| FR33 | 2007-000282 | R-CHIP;100KOHM,5%,1/10W,DA,TP,2012 | |
| FR34 | 2007-000282 | R-CHIP;100KOHM,5%,1/10W,DA,TP,2012 | |
| FR35 | 2007-000282 | R-CHIP;100KOHM,5%,1/10W,DA,TP,2012 | |
| FR36 | 2007-000282 | R-CHIP;100KOHM,5%,1/10W,DA,TP,2012 | |
| FR37 | 2007-000282 | R-CHIP;100KOHM,5%,1/10W,DA,TP,2012 | |
| FR43 | 2001-000793 | R-CARBON;47OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR44 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR45 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR46 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR5 | 2001-000325 | R-CARBON;120OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR53 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3 | PAL ONLY |
| FR54 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| FR57 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3 | NTSC ONLY |
| FR58 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| FR59 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| FY1 | 2802-000108 | RESONATOR-CERAMIC;12MHZ,0.5%,BK,10.0X5.0 | |
| HC01 | 2401-002299 | C-AL;4.7uF,20%,50V,GP,TP,5x7,5 | NTSC |
| HC01 | 2401-002075 | C-AL;4.7uF,20%,50V,GP,TP,5x11,5 | PAL |
| HC02 | 2401-002299 | C-AL;4.7uF,20%,50V,GP,TP,5x7,5 | NTSC |
| HC02 | 2401-002075 | C-AL;4.7uF,20%,50V,GP,TP,5x11,5 | PAL |
| HR03 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| HR04 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| JP203 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP204 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | DVD-909 PAL ONLY |
| JP211 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | DVD-909 ONLY |
| JP213 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP214 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP215 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP216 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP217 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP219 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | DVD-909 PAL ONLY |
| JP220 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP221 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP224 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP226 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | PAL ONLY |
| JP228 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP229 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | DVD-909 PAL ONLY |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| JP230 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | PAL ONLY |
| JP231 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | DVD-909 PAL ONLY |
| JP232 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | DVD-909 PAL ONLY |
| JP233 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | DVD-909 PAL ONLY |
| JP236 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | DVD-909 PAL ONLY |
| JP238 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | PAL ONLY |
| JP239 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP240 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP242 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP246 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | DVD-909 PAL ONLY |
| JP312 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP317 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP324 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP325 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP97 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| PC01 | 2305-001021 | C-FILM,MPEF;100nF,20%,275V,TP,17.5x7x13. | ⚠ |
| PC02 | 2305-001021 | C-FILM,MPEF;100nF,20%,275V,TP,17.5x7x13. | ⚠ |
| PC04 | 2301-000140 | C-FILM,PEF;10nF,10%,630V,BK,16.5X9.5X5.7 | |
| PC05 | 2201-000129 | C-CERAMIC,DISC;100pF,10%,1KV,Y5P,TP,6x5, | ⚠ |
| PC07 | 2301-000129 | C-FILM,PEF;100nF,5%,50V,TP,10X9X4.3X5,5m | |
| PC09 | 2301-000415 | C-FILM,PEF;22nF,5%,50V,TP,6.5x10.5x4mm,5 | |
| PC10 | 2201-000916 | C-CERAMIC,DISC;100pF,10%,400V,Y5U,TP,10x | ⚠ |
| PC11 | 2201-000916 | C-CERAMIC,DISC;100pF,10%,400V,Y5U,TP,10x | ⚠ |
| PC12 | 2203-000575 | C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012 | |
| PC13 | 2203-000575 | C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012 | |
| PC14 | 2203-000575 | C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012 | |
| PC15 | 2203-000575 | C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012 | |
| PC44 | 2301-000129 | C-FILM,PEF;100nF,5%,50V,TP,10X9X4.3X5,5m | |
| PCN01 | 3711-000178 | CONNECTOR-HEADER;1WALL,2P,1R,3.96mm,STRA | NTSC |
| PCN01 | 3711-000190 | CONNECTOR-HEADER;1WALL,2P,1R,7.92mm,STRA | PAL |
| PD01 | 0402-001009 | DIODE-RECTIFIER;1SR139,600V,1A,MSR,TP | ⚠ |
| PD02 | 0402-001009 | DIODE-RECTIFIER;1SR139,600V,1A,MSR,TP | ⚠ |
| PD03 | 0402-001009 | DIODE-RECTIFIER;1SR139,600V,1A,MSR,TP | ⚠ |
| PD04 | 0402-001009 | DIODE-RECTIFIER;1SR139,600V,1A,MSR,TP | ⚠ |
| PD11 | 0402-000378 | DIODE-RECTIFIER;EG01C,1000V,500mA,DO-41 | |
| PD12 | 0402-001013 | DIODE-RECTIFIER;1SR153-400,400V,800mA,DO | |
| PD3 | 0402-001013 | DIODE-RECTIFIER;1SR153-400,400V,800mA,DO | |
| PD31 | 0402-001013 | DIODE-RECTIFIER;1SR153-400,400V,800mA,DO | |
| PD32 | 0402-000430 | DIODE-RECTIFIER;FML-G02S,200V,3.0A,TO-22 | |
| PD33 | 0402-001251 | DIODE-RECTIFIER;FMG-22R,200V,10A,TO-220F | |
| PD34 | 0402-001251 | DIODE-RECTIFIER;FMG-22R,200V,10A,TO-220F | |
| PD35 | 0402-001013 | DIODE-RECTIFIER;1SR153-400,400V,800mA,DO | |
| PD37 | 0402-000132 | DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP | |
| PD38 | 0402-000132 | DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP | |
| PE10 | 2401-001353 | C-AL;470uF,20%,10V,GP,TP,8x11.5,5 | |
| PE11 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| PE12 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| PE13 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| PE3 | 2401-001682 | C-AL;82uF,20%,400V,GP,BK,22x25,10mm | ⚠ |
| PE31 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| PE32 | 2401-001998 | C-AL;1000uF,20%,25V,GP,TP,10x20,5mm | |
| PE33 | 2401-001998 | C-AL;1000uF,20%,25V,GP,TP,10x20,5mm | |
| PE35 | 2401-000360 | C-AL;100uF,20%,50V,GP,TP,8x11.5,5 | |
| PE36 | 2401-001998 | C-AL;1000uF,20%,25V,GP,TP,10x20,5mm | |
| PE37 | 2401-001134 | C-AL;330uF,20%,35V,WT,TP,10x16,5 | |
| PE38 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| PE39 | 2401-001134 | C-AL;330uF,20%,35V,WT,TP,10x16,5 | |
| PE4 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| PE41 | 2401-002036 | C-AL;1uF,20%,50V,GP,TP,5x11,2.5mm | |
| PE42 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| PE43 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| PE44 | 2401-002036 | C-AL;1uF,20%,50V,GP,TP,5x11,2.5mm | |
| PE6 | 2401-001583 | C-AL;47uF,20%,50V,WT,TP,6.3x11,5 | |
| PF0A | 3601-000403 | FUSE-FERRULE;250V,1.6A,SLOW-BLOW,GLASS,5 | ⚠ NTSC |
| PF0A | 3601-001123 | FUSE-FERRULE;250V,1.6A,TIME-LAG,CERAMIC, | ⚠ PAL |
| PIC1 | 1203-001721 | IC-PWM CONTROLLER;STR-G6153T,T0-220,5P,1 | ⚠ |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| PIC2 | 0604-000186 | PHOTO-COUPLER;TR,-,200mW,DIP-4,ST | ⚠ |
| PIC3 | AC14-12006D | IC;KA431Z,TO-92,TAPING | |
| PIC4 | 1203-000122 | IC-NEGA.FIXED REG.;7908,TO-220,3P,-,PLAS | |
| PIC5 | 1203-001697 | IC-VOLTAGE REGULATOR;78R08,TO-220,4P,-,P | |
| PIC6 | 1203-001083 | IC-VOLTAGE REGULATOR;3RF23,TO-202,4P,12. | |
| PL01 | AC29-30050A | FILTER-LINE NOISE;-,400UH,-,250V,- | ⚠ |
| PL02 | AC27-92001Q | COIL-LINE FILTER;BSF-2120Z,25MH,-,-,- | ⚠ |
| PL03 | 3301-000297 | CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400, | |
| PL11 | 3301-000297 | CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400, | |
| PQ1 | 0501-000398 | TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92 | NTSC ONLY |
| PQ2 | 0501-000616 | TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L | NTSC ONLY |
| PQ21 | 0504-000142 | TR-DIGITAL;KSR2001,PNP,300MW,4.7K/4.7K,T | |
| PQ22 | 0504-000118 | TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO- | |
| PQ23 | 0502-000298 | TR-POWER;KSD73,NPN,30W,TO-220,-,120-240 | |
| PQ24 | 0502-000298 | TR-POWER;KSD73,NPN,30W,TO-220,-,120-240 | |
| PQ3 | 0504-000118 | TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO- | NTSC ONLY |
| PQ4 | 0504-000142 | TR-DIGITAL;KSR2001,PNP,300MW,4.7K/4.7K,T | NTSC ONLY |
| PR10 | 2006-000262 | R-CEMENT;2.7ohm,10%,2W,CB,ST,7.5x11x20. | |
| PR11 | 2001-000073 | R-CARBON;33KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| PR12 | 2001-000073 | R-CARBON;33KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| PR13 | 2001-000073 | R-CARBON;33KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| PR14 | 2001-000073 | R-CARBON;33KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| PR15 | 2003-000273 | R-METAL OXIDE;33Kohm,5%,2W,AA,TP,6x16mm | |
| PR16 | 2003-000273 | R-METAL OXIDE;33Kohm,5%,2W,AA,TP,6x16mm | |
| PR17 | 2003-000148 | R-METAL OXIDE;100OHM,5%,2W,AE,TP,6X16MM | |
| PR18 | 2001-000666 | R-CARBON;33OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PR2 | 2003-000148 | R-METAL OXIDE;100OHM,5%,2W,AE,TP,6X16MM | |
| PR20 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PR3 | 2001-000734 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3 | NTSC ONLY |
| PR31 | 2001-000034 | R-CARBON;220OHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| PR32 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PR33 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PR34 | 2001-000440 | R-CARBON;1OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PR35 | 2001-000362 | R-CARBON;150OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PR36 | 2001-000221 | R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PR37 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PR38 | 2004-000869 | R-METAL;3Kohm,1%,1/8W,AA,TP,1.8x3.2mm | |
| PR39 | 2004-000459 | R-METAL;2.2Kohm,1%,1/8W,AA,TP,1.8x3.2m | |
| PR4 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | NTSC ONLY |
| PR40 | 2003-000111 | R-METAL OXIDE;0.47ohm,5%,1W,AD,TP,4.3x12 | |
| PR5 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3 | NTSC ONLY |
| PR6 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3 | NTSC ONLY |
| PR7 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| PT01 | AH26-00008A | TRANS-SWITCHING;-,85V-240V,UL/CSA,EE2821 | ⚠ |
| PVA01 | 1405-000186 | VARISTOR;470V,4500A,17x12mm,TP | ⚠ |
| PZD31 | 0403-000717 | DIODE-ZENER;MTZJ5.1B,5.1V,4.94-5.2V,500m | |
| RC12 | 2201-000812 | C-CERAMIC,DISC;2.2nF,20%,400V,Y5U,BK,11x | ⚠ |
| RC13 | 2201-000812 | C-CERAMIC,DISC;2.2nF,20%,400V,Y5U,BK,11x | ⚠ |
| RL03 | 3301-000297 | CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400, | |
| SCC1 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V, | DVD-909 PAL ONLY |
| SCC10 | 2203-000239 | C-CERAMIC,CHIP;100pF,5%,50V,NPO, | DVD-909 PAL ONLY |
| SCC11 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | PAL ONLY |
| SCC12 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | PAL ONLY |
| SCC13 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V, | DVD-909 PAL ONLY |
| SCC14 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | PAL ONLY |
| SCC2 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V | DVD-909 PAL ONLY |
| SCC3 | 2202-000121 | C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP | PAL ONLY |
| SCC4 | 2202-000121 | C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP | PAL ONLY |
| SCC5 | 2202-000121 | C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P | DVD-909 PAL ONLY |
| SCC6 | 2202-000121 | C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P, | DVD-909 PAL ONLY |
| SCC7 | 2203-000239 | C-CERAMIC,CHIP;100pF,5%,50V,NPO,TP, | DVD-909 PAL ONLY |
| SCC8 | 2203-000239 | C-CERAMIC,CHIP;100pF,5%,50V,NPO,TP, | DVD-909 PAL ONLY |
| SCC9 | 2203-000239 | C-CERAMIC,CHIP;100pF,5%,50V,NPO,TP, | DVD-909 PAL ONLY |
| SCD1 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2- | DVD-909 PAL ONLY |
| SCD2 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | PAL ONLY |
| SCD3 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | PAL ONLY |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| SCE1 | 2401-002075 | C-AL;4.7uF,20%,50V,GP,TP,5x11,5 | DVD-909 PAL ONLY |
| SCE10 | 2401-000369 | C-AL;100UF,20%,6.3V,GP,-,6.3X11,5 | PAL ONLY |
| SCE11 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | PAL ONLY |
| SCE12 | 2401-000369 | C-AL;100UF,20%,6.3V,GP,-,6.3X11,5 | PAL ONLY |
| SCE13 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | PAL ONLY |
| SCE14 | 2401-000369 | C-AL;100UF,20%,6.3V,GP,-,6.3X11,5 | PAL ONLY |
| SCE15 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | PAL ONLY |
| SCE16 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | PAL ONLY |
| SCE17 | 2401-001353 | C-AL;470uF,20%,10V,GP,TP,8x11.5,5 | PAL ONLY |
| SCE2 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | DVD-909 PAL ONLY |
| SCE3 | 2401-000369 | C-AL;100UF,20%,6.3V,GP,-,6.3X11,5 | DVD-909 PAL ONLY |
| SCE4 | 2401-002075 | C-AL;4.7uF,20%,50V,GP,TP,5x11,5 | PAL ONLY |
| SCE5 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | PAL ONLY |
| SCE6 | 2401-000369 | C-AL;100UF,20%,6.3V,GP,-,6.3X11,5 | PAL ONLY |
| SCE7 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | PAL ONLY |
| SCE8 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | PAL ONLY |
| SCE9 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | PAL ONLY |
| SCIC1 | AH14-10004T | IC-ANALOG M/PLEXER;MC14053BD,SOP, | DVD-909 PAL ONLY |
| SCIC2 | AH14-10004T | IC-ANALOG M/PLEXER;MC14053BD,SOP, | DVD-909 PAL ONLY |
| SCIC3 | AH14-10004T | IC-ANALOG M/PLEXER;MC14053BD,SOP,TAPE 16 | PAL ONLY |
| SCIC4 | 1201-001063 | IC-OP AMP;2267,SOP,8P,300MIL,DUAL,6.7dB, | PAL ONLY |
| SCIC5 | AH14-10004T | IC-ANALOG M/PLEXER;MC14053BD,SOP, | DVD-909 PAL ONLY |
| SCIC6 | 1201-001419 | IC-VIDEO AMP;7660,SSOP,16P,173MIL,3,6DB, | PAL ONLY |
| SCJ1 | 3722-001354 | JACK-SCART;42P/2R,-,SN,BLK,- | PAL ONLY |
| SCL1 | 2701-000181 | INDUCTOR-AXIAL;33UH,5%,2.4X3.4MM | PAL ONLY |
| SCL10 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | PAL ONLY |
| SCL11 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | PAL ONLY |
| SCL2 | 2701-000181 | INDUCTOR-AXIAL;33UH,5%,2.4X3.4MM | PAL ONLY |
| SCL3 | 2701-000181 | INDUCTOR-AXIAL;33UH,5%,2.4X3.4MM | DVD-909 PAL ONLY |
| SCL4 | 2701-000181 | INDUCTOR-AXIAL;33UH,5%,2.4X3.4MM | DVD-909 PAL ONLY |
| SCQ1 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | PAL ONLY |
| SCQ10 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K | DVD-909 PAL ONLY |
| SCQ11 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | PAL ONLY |
| SCQ12 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K | DVD-909 PAL ONLY |
| SCQ13 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23, | DVD-909 PAL ONLY |
| SCQ14 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K | DVD-909 PAL ONLY |
| SCQ17 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT- | PAL ONLY |
| SCQ18 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT- | PAL ONLY |
| SCQ19 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT- | PAL ONLY |
| SCQ2 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K | PAL ONLY |
| SCQ3 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | PAL ONLY |
| SCQ4 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | PAL ONLY |
| SCQ5 | 0501-000314 | TR-SMALL SIGNAL;KSA812,PNP,150mW,SOT-23, | PAL ONLY |
| SCQ6 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT- | PAL ONLY |
| SCQ7 | 0501-000314 | TR-SMALL SIGNAL;KSA812,PNP,150mW,SOT-23, | PAL ONLY |
| SCQ8 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | PAL ONLY |
| SCQ9 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23 | DVD-909 PAL ONLY |
| SCR1 | 2001-000734 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| SCR10 | 2007-001118 | R-CHIP;680OHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR11 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| SCR12 | 2001-000958 | R-CARBON;750OHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| SCR13 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| SCR14 | 2001-000780 | R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| SCR15 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| SCR16 | 2001-000281 | R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| SCR17 | 2001-000958 | R-CARBON;750OHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| SCR18 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 PAL ONLY |
| SCR19 | 2001-000857 | R-CARBON;560OHM,5%,1/8W,AA,TP,1.8X3 | PAL ONLY |
| SCR2 | 2007-000981 | R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012 | DVD-909 PAL ONLY |
| SCR20 | 2001-000857 | R-CARBON;560OHM,5%,1/8W,AA,TP,1.8X3 | PAL ONLY |
| SCR21 | 2001-000857 | R-CARBON;560OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 PAL ONLY |
| SCR22 | 2001-000857 | R-CARBON;560OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 PAL ONLY |
| SCR23 | 2007-001201 | R-CHIP;820OHM,5%,1/10W,DA,TP,2012 | DVD-909 PAL ONLY |
| SCR24 | 2007-001201 | R-CHIP;820OHM,5%,1/10W,DA,TP,2012 | DVD-909 PAL ONLY |
| SCR25 | 2007-001166 | R-CHIP;75OHM,5%,1/10W,DA,TP,2012 | DVD-909 PAL ONLY |
| SCR26 | 2007-001201 | R-CHIP;820OHM,5%,1/10W,DA,TP,2012 | DVD-909 PAL ONLY |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| SCR27 | 2007-001201 | R-CHIP;820OHM,5%,1/10W,DA,TP,2012 | DVD-909 PAL ONLY |
| SCR28 | 2007-001166 | R-CHIP;75OHM,5%,1/10W,DA,TP,2012 | DVD-909 PAL ONLY |
| SCR32 | 2007-001166 | R-CHIP;75OHM,5%,1/10W,DA,TP,2012 | DVD-909 PAL ONLY |
| SCR33 | 2007-001166 | R-CHIP;75OHM,5%,1/10W,DA,TP,2012 | DVD-909 PAL ONLY |
| SCR34 | 2007-001166 | R-CHIP;75OHM,5%,1/10W,DA,TP,2012 | DVD-909 PAL ONLY |
| SCR35 | 2007-001166 | R-CHIP;75OHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR36 | 2007-001166 | R-CHIP;75OHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR37 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| SCR4 | 2007-000981 | R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR42 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| SCR43 | 2007-000030 | R-CHIP;560OHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR44 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR45 | 2007-000300 | R-CHIP;10KOHM,5%,1/10W,DA,TP,2012 | DVD-909 PAL ONLY |
| SCR46 | 2007-000300 | R-CHIP;10KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR5 | 2007-000686 | R-CHIP;3.3KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR50 | 2007-000774 | R-CHIP;33KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR51 | 2007-000774 | R-CHIP;33KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR52 | 2007-000774 | R-CHIP;33KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR53 | 2007-000981 | R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR54 | 2007-000981 | R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR55 | 2007-000981 | R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR6 | 2007-000686 | R-CHIP;3.3KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR66 | 2007-000872 | R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR67 | 2007-000872 | R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR7 | 2007-000518 | R-CHIP;2.7KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR8 | 2007-000981 | R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SCR9 | 2007-000686 | R-CHIP;3.3KOHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| SVJ1 | 3722-001375 | JACK-DIN;4P,-,NI,BLK,- | |
| VC1 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| VC10 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | |
| VC100 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| VC101 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| VC102 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| VC103 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| VC104 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| VC105 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | NTSC |
| VC105 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | PAL |
| VC106 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | PAL ONLY |
| VC11 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | |
| VC12 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | |
| VC13 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | |
| VC14 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | |
| VC2 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| VC3 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| VC4 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | |
| VC5 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | |
| VC6 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | |
| VC7 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | |
| VC8 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | |
| VC9 | 2202-000849 | C-CERAMIC,MLC-AXIAL;18pF,5%,50V,CH,TP,3. | |
| VE51 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| VE54 | 2401-000369 | C-AL;100UF,20%,6.3V,GP,-,6.3X11,5 | DVD-909 NTSC ONLY |
| VE55 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | DVD-909 NTSC ONLY |
| VE58 | 2401-000369 | C-AL;100UF,20%,6.3V,GP,-,6.3X11,5 | DVD-909 NTSC ONLY |
| VE58A | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | DVD-909 NTSC ONLY |
| VE60 | 2401-001353 | C-AL;470uF,20%,10V,GP,TP,8x11.5,5 | |
| VE61 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | |
| VE66 | 2401-001353 | C-AL;470uF,20%,10V,GP,TP,8x11.5,5 | |
| VE67 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11mm,2.5m | |
| VE69 | 2401-001353 | C-AL;470uF,20%,10V,GP,TP,8x11.5,5 | |
| VE70 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| VE71 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| VE72 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| VE73 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| VFD1 | AH07-00002A | VF-DISPLAY;SVV-08M,21SEG,25X100MM,DVD-90 | |
| VIC50 | 1204-001366 | IC-VIDEO ENCODER;SAA7128,QFP,44P,-,PLAST | |
| VIC51 | 1201-001419 | IC-VIDEO AMP;7660,SSOP,16P,173MIL, | DVD-909 NTSC ONLY |
| VIC52 | 1201-001419 | IC-VIDEO AMP;7660,SSOP,16P,173MIL,3,6DB, | |
| VL100 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL110 | 3301-000297 | CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400, | |
| VL111 | 3301-000297 | CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400, | |
| VL112 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL113 | 2701-000138 | INDUCTOR-AXIAL;18uH,5%,2.4x3.4mm | |
| VL115 | 2701-000002 | INDUCTOR-AXIAL;100uH,10%,4.2x9.8mm | |
| VL116 | 2701-000002 | INDUCTOR-AXIAL;100uH,10%,4.2x9.8mm | |
| VL117 | 2701-000002 | INDUCTOR-AXIAL;100uH,10%,4.2x9.8mm | PAL ONLY |
| VL118 | 2701-000002 | INDUCTOR-AXIAL;100uH,10%,4.2x9.8mm | PAL ONLY |
| VL119 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VR10 | 2001-000008 | R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR100 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR108 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR109 | 2001-000666 | R-CARBON;33OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR11 | 2001-000008 | R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR110 | 2001-000666 | R-CARBON;33OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR111 | 2001-000666 | R-CARBON;33OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR112 | 2001-000666 | R-CARBON;33OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR113 | 2001-000666 | R-CARBON;33OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR114 | 2001-000666 | R-CARBON;33OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR115 | 2001-000666 | R-CARBON;33OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR116 | 2001-000666 | R-CARBON;33OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR117 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 NTSC ONLY |
| VR12 | 2001-000591 | R-CARBON;3.3KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR121 | 2007-000572 | R-CHIP;220OHM,5%,1/10W,DA,TP,2012 | PAL ONLY |
| VR122 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| VR123 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| VR125 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| VR13 | 2001-000591 | R-CARBON;3.3KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR130 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 NTSC ONLY |
| VR131 | 2001-000780 | R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| VR132 | 2001-000780 | R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR133 | 2001-000780 | R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR14 | 2001-000591 | R-CARBON;3.3KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR146 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 NTSC ONLY |
| VR15 | 2001-000734 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR16 | 2001-000734 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR17 | 2001-000666 | R-CARBON;33OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR175 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR176 | 2001-000554 | R-CARBON;270OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR177 | 2001-000780 | R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR178 | 2001-000003 | R-CARBON;330OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR18 | 2001-000666 | R-CARBON;33OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR192 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR193 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3 | DVD-909 ONLY |
| VR3 | 2001-000258 | R-CARBON;1.8KOHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL ONLY |
| VR4 | 2001-000221 | R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | NTSC |
| VR4 | 2001-000258 | R-CARBON;1.8KOHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL |
| VR5 | 2001-000221 | R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | NTSC |
| VR5 | 2001-000258 | R-CARBON;1.8KOHM,5%,1/8W,AA,TP,1.8X3.2MM | PAL |
| VR7 | 2001-000977 | R-CARBON;8.2KOHM,5%,1/8W,AA,TP, | DVD-909 NTSC ONLY |
| VR8 | 2001-000977 | R-CARBON;8.2KOHM,5%,1/8W,AA,TP | DVD-909 NTSC ONLY |
| VR9 | 2001-000008 | R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VSW1 | 3408-000277 | SWITCH-SLIDE;50V,300mA,DP3T,-,KSA-2372 | PAL ONLY |

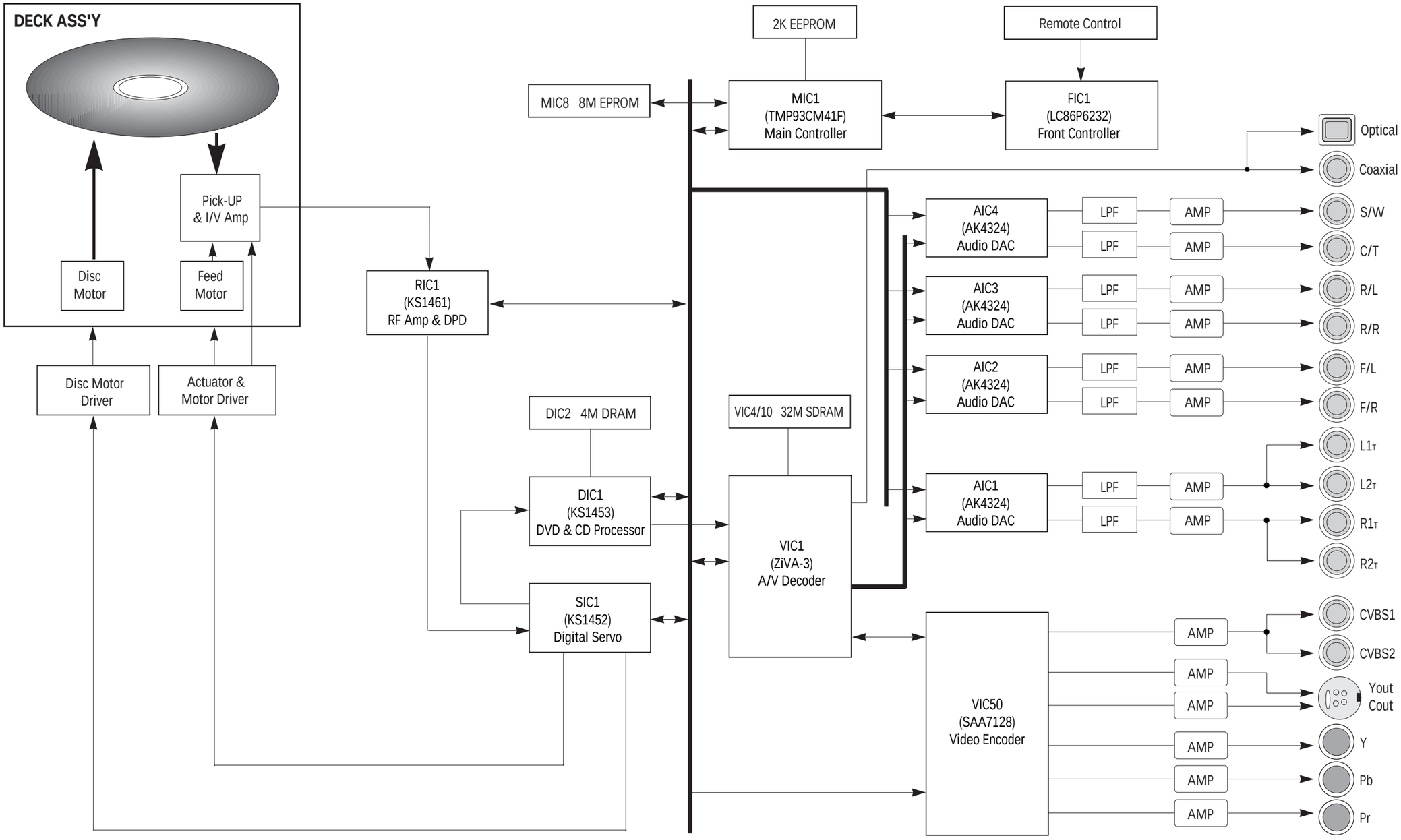
| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| **701** | | **ASSY-PCB-PHONE POWER;DVD-909** | |
| CON23 | 3711-001062 | CONNECTOR-HEADER;BOX,6P,1R,2mm,STRAIGHT, | |
| CON23-A | AH39-00030A | LEAD CONNECTOR-ASSY;-,51004-04,35023-04, | |
| HP2 | 2001-000666 | R-CARBON;33OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| HPJ01 | 3722-000345 | JACK-PHONE;3P,6.4mm,AG,BLK,- | |
| HR1 | 2001-000666 | R-CARBON;33OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| KC1 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| KC2 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| KCE10 | 2401-001226 | C-AL;4.7uF,20%,16V,BP,TP,4x7,5mm | |
| KCE11 | 2401-001226 | C-AL;4.7uF,20%,16V,BP,TP,4x7,5mm | |
| KCE8 | 2401-002009 | C-AL;100uF,20%,16V,GP,TP,6.3x7,5 | |
| KCE9 | 2401-002009 | C-AL;100uF,20%,16V,GP,TP,6.3x7,5 | |
| KD1 | 0601-001238 | LED;ROUND,RED,3.1mm,697nm | |
| KOP03 | 1201-000191 | IC-OP AMP;4558,DIP,8P,300MIL,DUAL,20V/mV | |
| KR3 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| KR32 | 2001-000331 | R-CARBON;12KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| KR33 | 2001-000734 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| KR34 | 2001-000331 | R-CARBON;12KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| KR35 | 2001-000734 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| KR4 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| KSW1 | 3404-000160 | SWITCH-TACT;12V,50mA,160gf+-50gf,6.55x7. | |
| KVR4 | 2101-001054 | VR-ROTARY;10KOHM,20%,1/20W,SIDE | |
| **701** | | **ASSY-PCB-POWER;DVD-709** | |
| CON24 | AH39-00033A | LEAD CONNECTOR-ASSY;-,51004-04,35023-04, | |
| KD2 | 0601-001238 | LED;ROUND,RED,3.1mm,697nm | |
| KSW2 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S | |
| **702** | | **ASSY-PCB-PLAY;DVD-909** | |
| CON21 | AH39-00029A | LEAD CONNECTOR-ASSY;-,51004-12,35023-12, | |
| FSW1 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S | |
| FSW2 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S | |
| FSW3 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S | |
| FSW4 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S | |
| FSW7 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S | |
| JOG01 | AC21-12001A | JOG-SHUTTLE DIAL;-,-,-,-,-,SRGPPJ-012A | |
| **702** | | **ASSY-PCB-PLAY;DVD-709** | |
| CON22 | AH39-00028A | LEAD CONNECTOR-ASSY;-,51004-06,35023-06, | |
| FSW1 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S | |
| FSW2 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S | |
| FSW4 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S | |
| FSW5 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S | |
| FSW6 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| **202** | | **ASSY-PCB-DECK;DP-3** | |
| CN1 | 3708-001081 | CONNECTOR-FPC/FC/PIC;11P,1mm,STRAIGHT,SN | |
| CN2 | 3708-001001 | CONNECTOR-FPC/FC/PIC;20P,1mm,SMD-A,SN | |
| CN3 | 3711-000827 | CONNECTOR-HEADER:BOX,2P,1R,2mm,STRAIGHT, | |
| CN4 | 3708-001108 | CONNECTOR-FPC/FC/PIC;8P,1.0MM,ANGLE,SN | |
| CN5 | 3708-001084 | CONNECTOR-FPC/FC/PIC;40P,1.25mm,ANGLE,SN | |
| DC1 | 2203-000208 | C-CERAMIC,CHIP;100nF,10%,50V,X7R,TP,3216 | |
| DC2 | 2203-000208 | C-CERAMIC,CHIP;100nF,10%,50V,X7R,TP,3216 | |
| DC3 | 2203-000208 | C-CERAMIC,CHIP;100nF,10%,50V,X7R,TP,3216 | |
| DC4 | 2203-000612 | C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,3216, | |
| DE1 | 2404-000259 | C-TA,CHIP;47uF,20%,6.3V,-,TP,6032,- | |
| DE2 | 2404-000259 | C-TA,CHIP;47uF,20%,6.3V,-,TP,6032,- | |
| DJP1 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP10 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP11 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP12 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP13 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP14 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP15 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP16 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP17 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP18 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP19 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP2 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP20 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP21 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP22 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP3 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP4 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP5 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP6 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP7 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP8 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DJP9 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| DL1 | 3301-000325 | CORE-FERRITE BEAD;AB,3.2x2.5x1.3mm,-,- | |
| DLED | 0601-001372 | LED;ROUND,GRN,3.5MM,621NM | |
| DR1 | 2007-000800 | R-CHIP;360ohm,5%,1/8W,DA,TP,3216 | |
| DR2 | 2007-000451 | R-CHIP;180OHM,5%,1/8W,DA,TP,3216 | |
| DR3 | 2007-000451 | R-CHIP;180OHM,5%,1/8W,DA,TP,3216 | |
| DR4 | 2007-000303 | R-CHIP;10KOHM,5%,1/8W,DA,TP,3216 | |
| DR5 | 2007-000303 | R-CHIP;10KOHM,5%,1/8W,DA,TP,3216 | |
| SW1 | AH34-30001A | SWITCH-PUSH;2EA,6.65X7.5,-,DC5V | |
| SW2 | 3403-001001 | SWITCH-PUSH;5V,5mA,-,OFF-ON | |
| SW3 | 3408-000323 | SWITCH-SLIDE;SSSS712GD011/12VDC 100ma | |

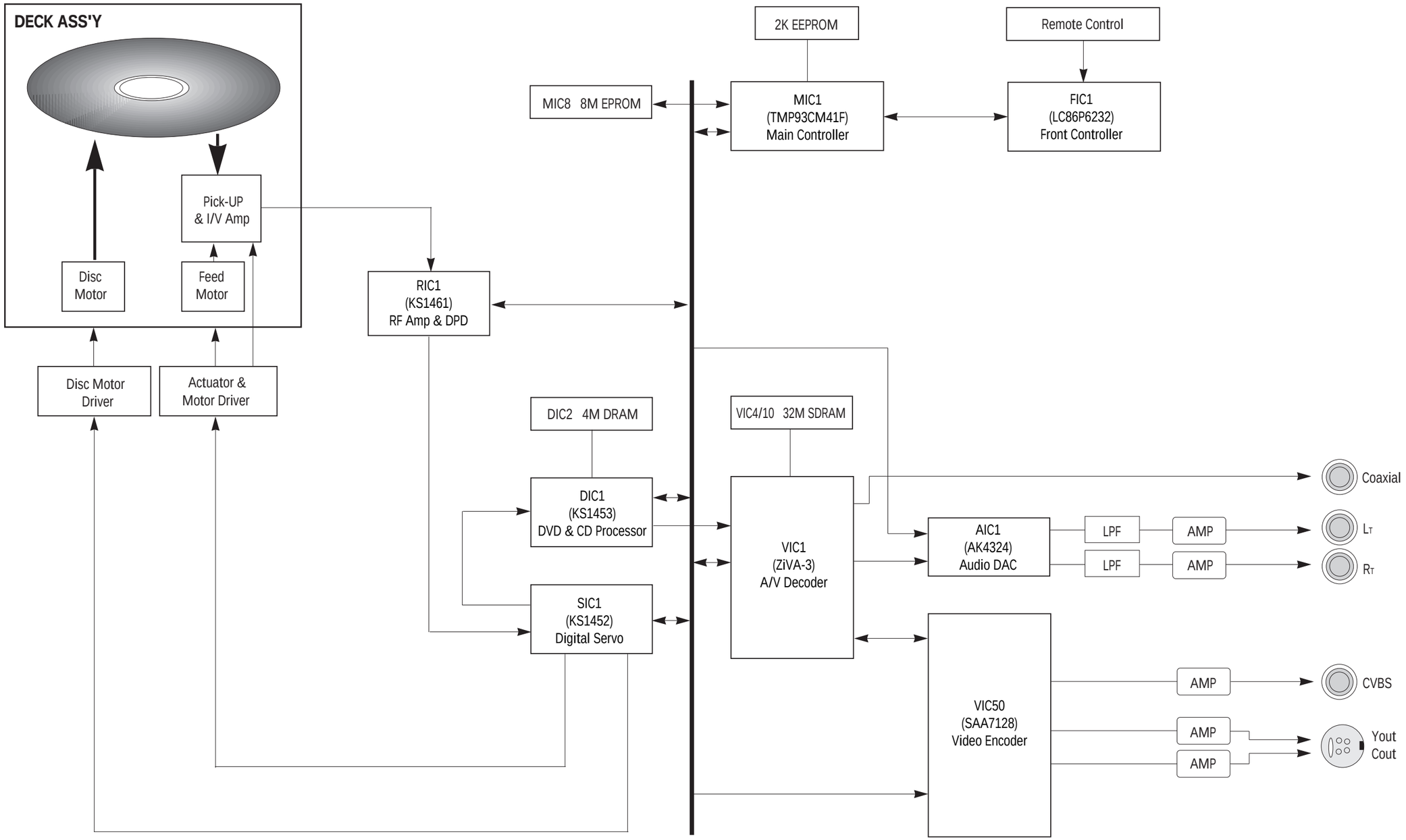
# MEMO

# 10. Block Diagrams

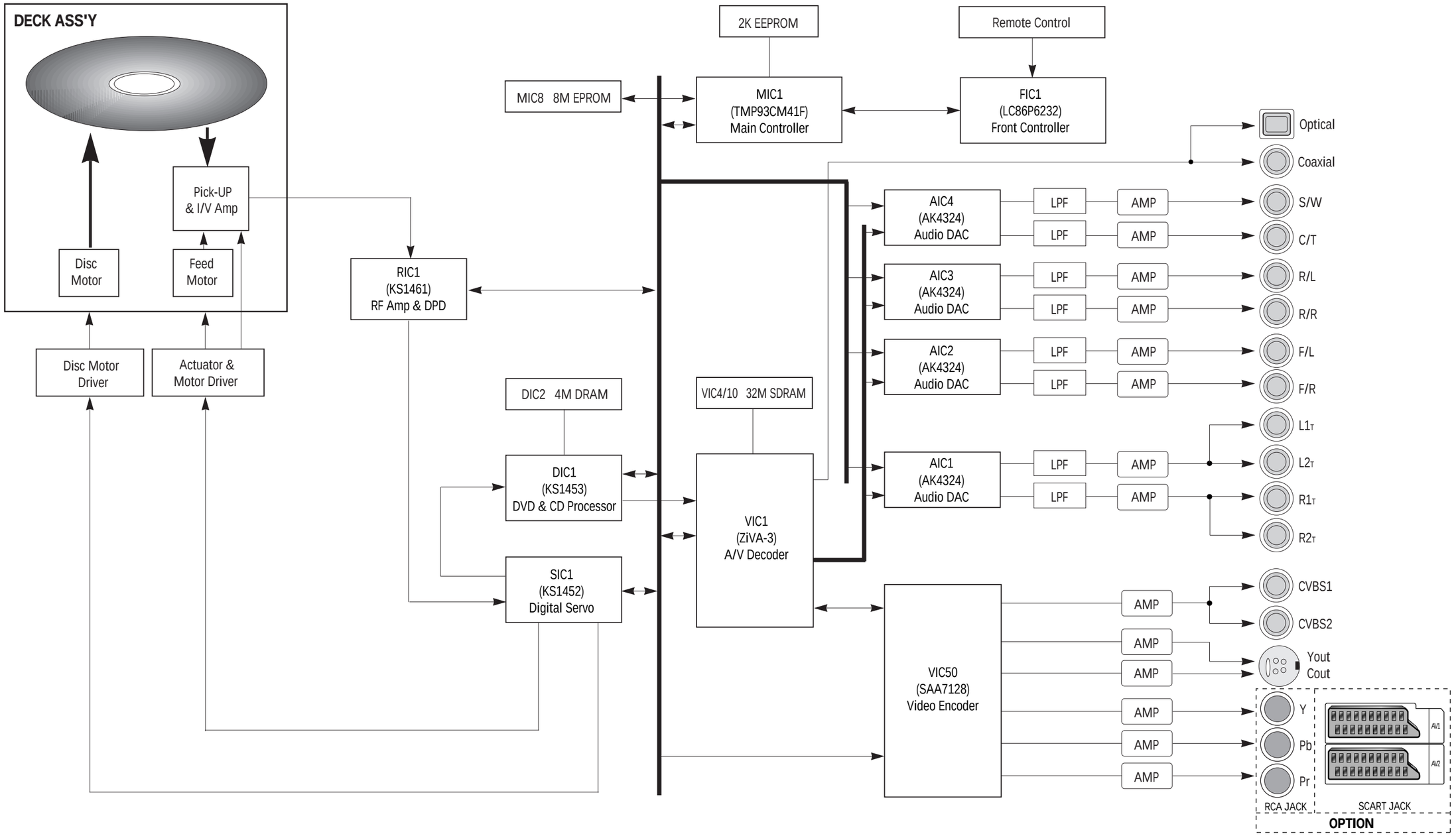
## 10-1 NTSC DVD-909



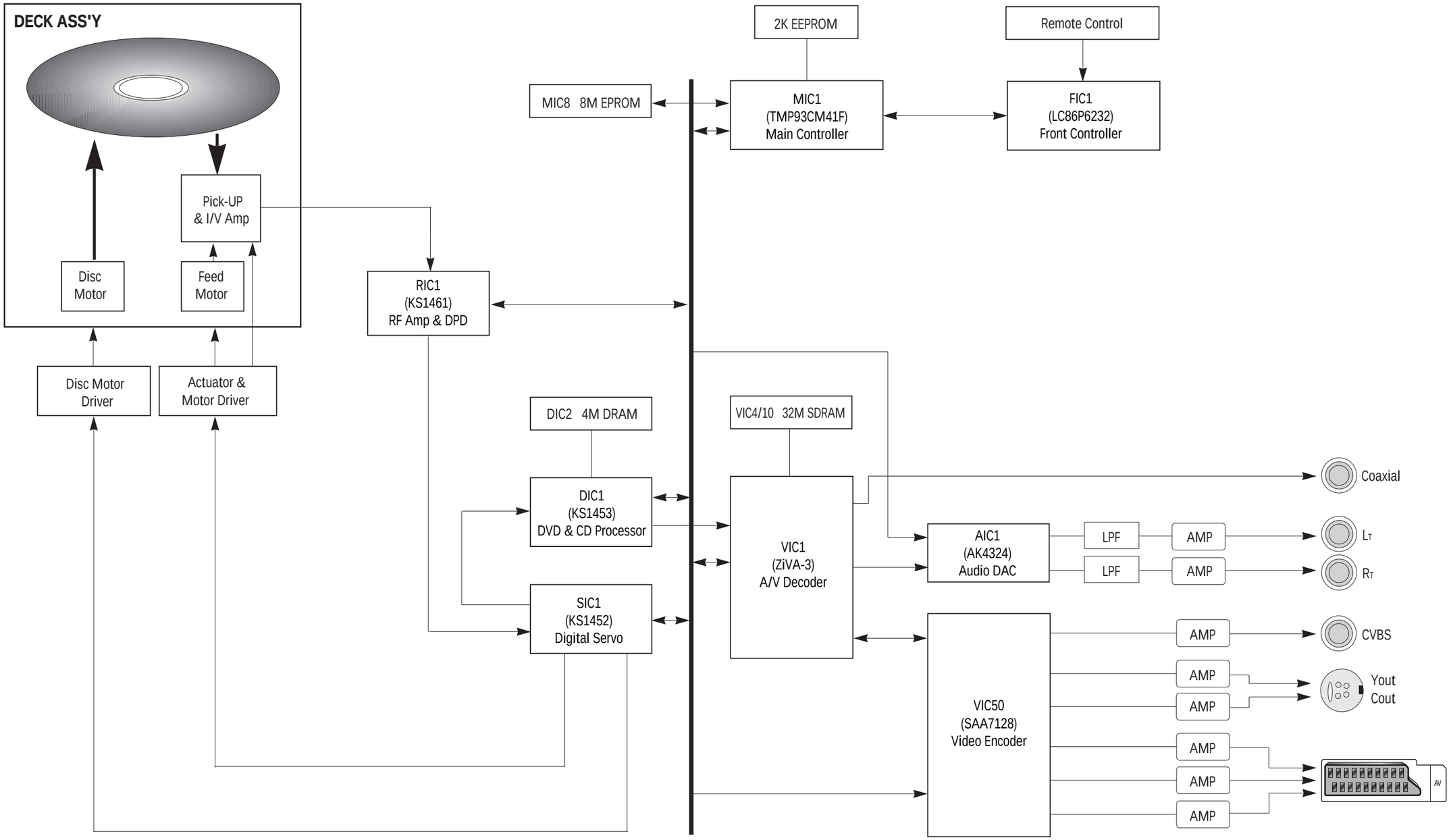
# 10-2 NTSC DVD-709



## 10-3 PAL DVD-909



# 10-4 PAL DVD-709



## 11. PCB Diagrams


11-1 Main ---------- 11-2

11-2 Jack ---------- 11-3

11-3 Phone/Power (DVD-909 Only) ---------- 11-4

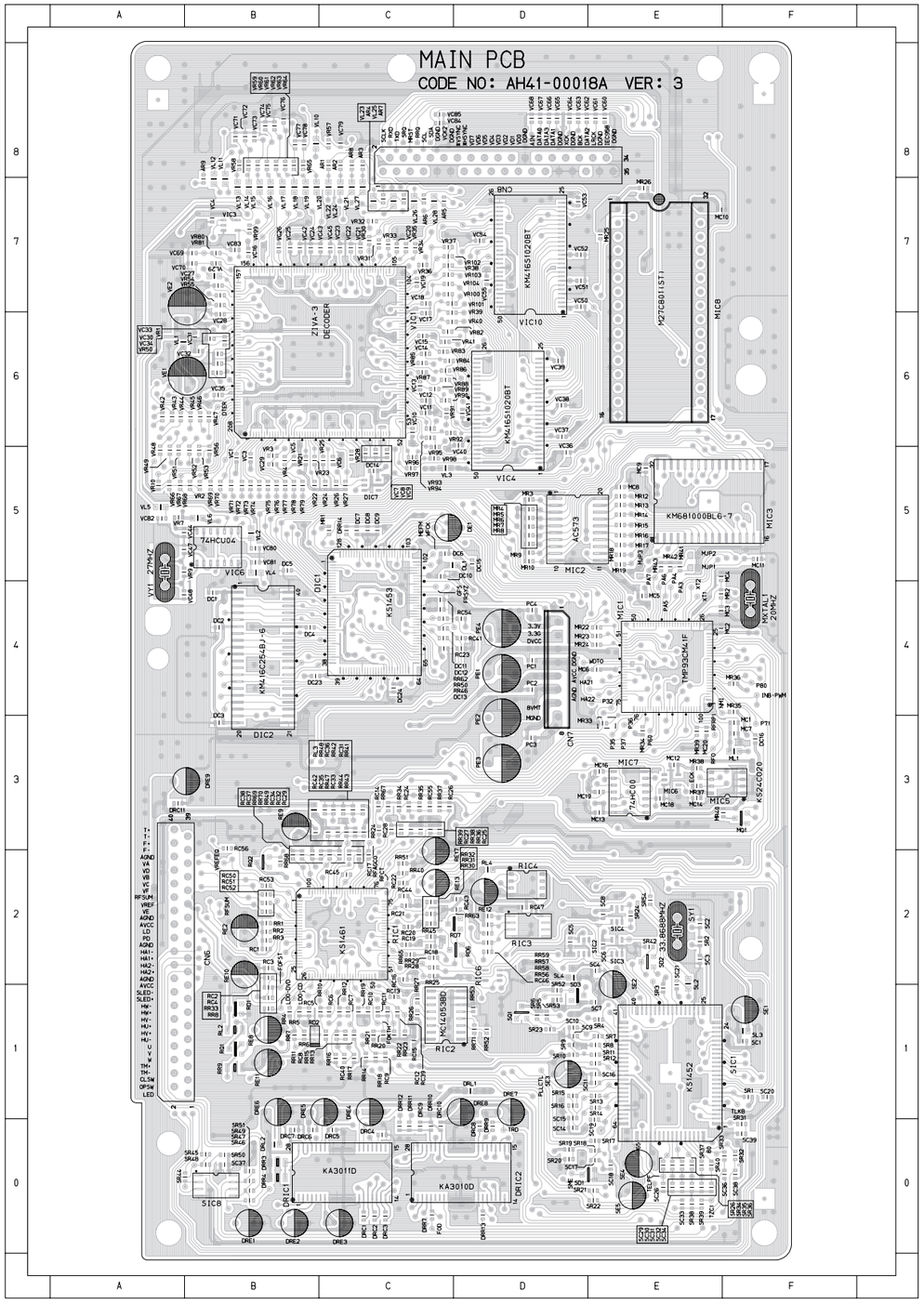
11-4 Power (DVD-709 Only) ---------- 11-4

11-5 Play ---------- 11-4

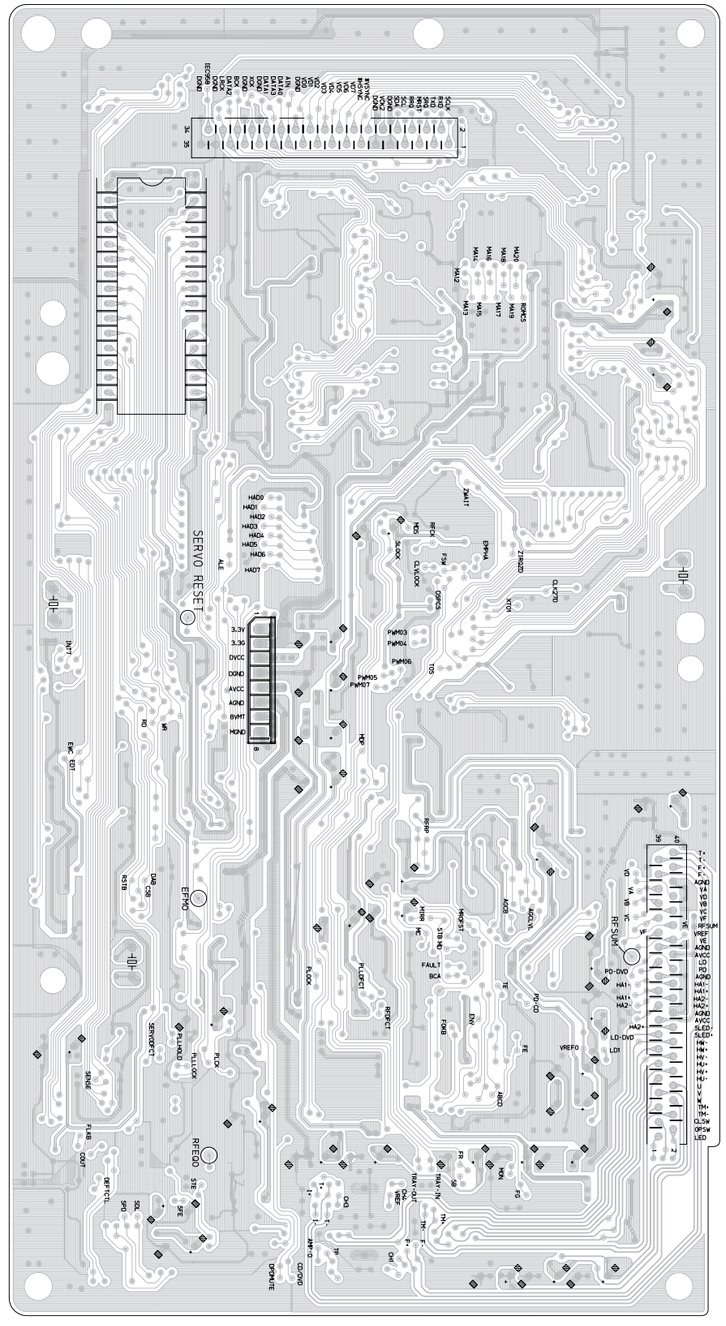
11-6 Deck ---------- 11-4

# 11-1 Main

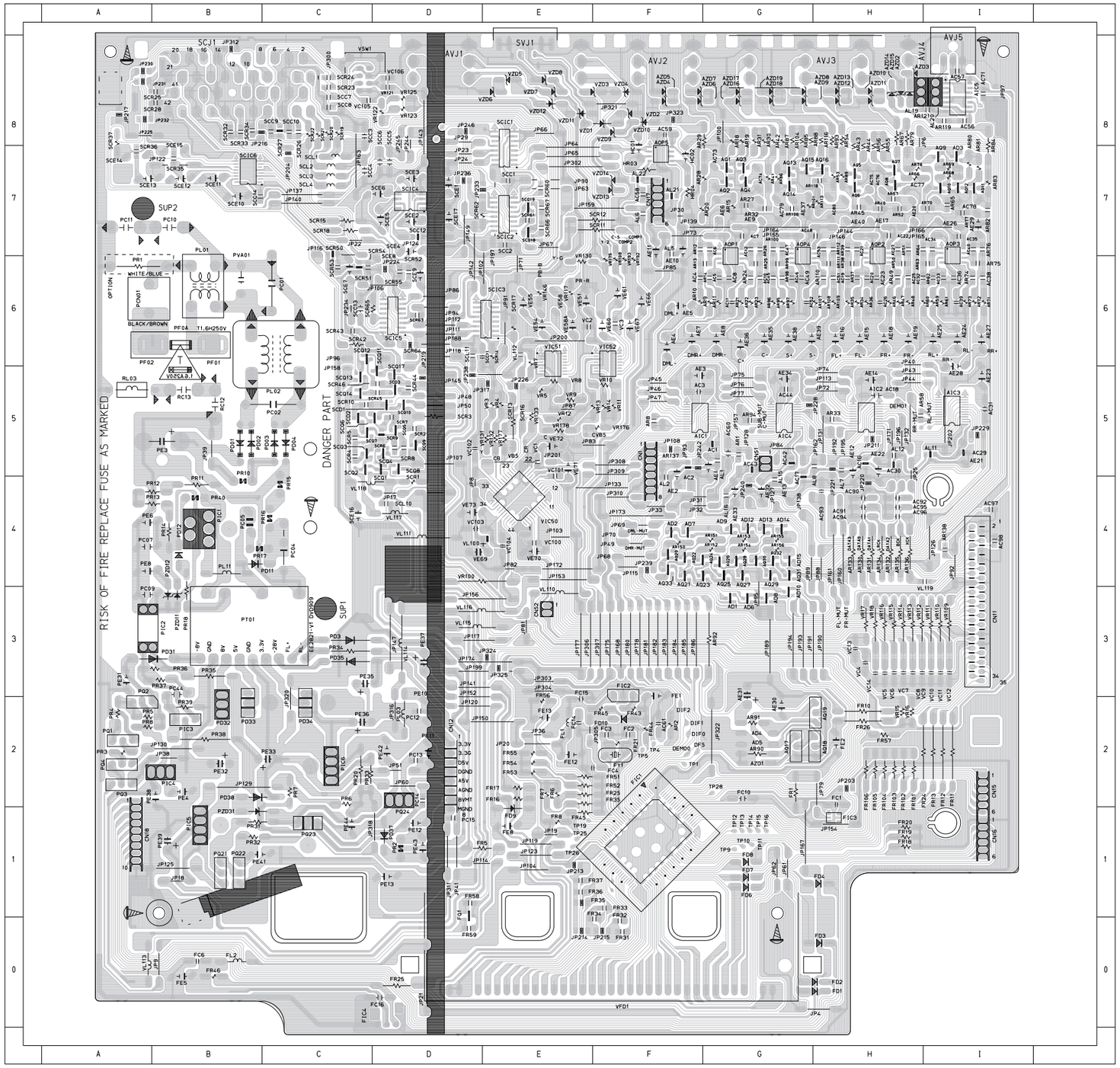
COMPONENT SIDE



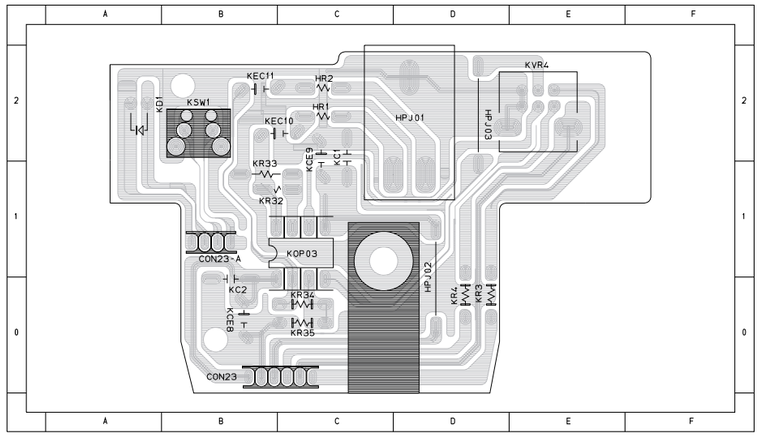

SOLDER SIDE



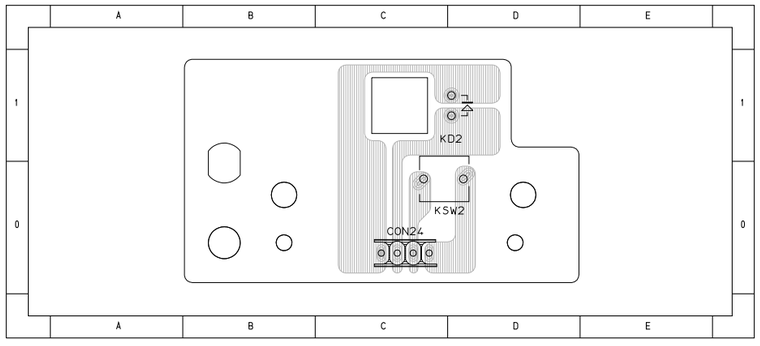
## 11-2 Jack


SCJ1
SVJ1
AVJ1
AVJ2
AVJ3
AVJ5
SUP1
SUP2
DANGER PART
RISK OF FIRE REPLACE FUSE AS MARKED
OPTION
BLACK/BROWN
WHITE/BLUE
T1.6H250V
PT01
CN1
CN2
CN5
CN6
CN16
CN18

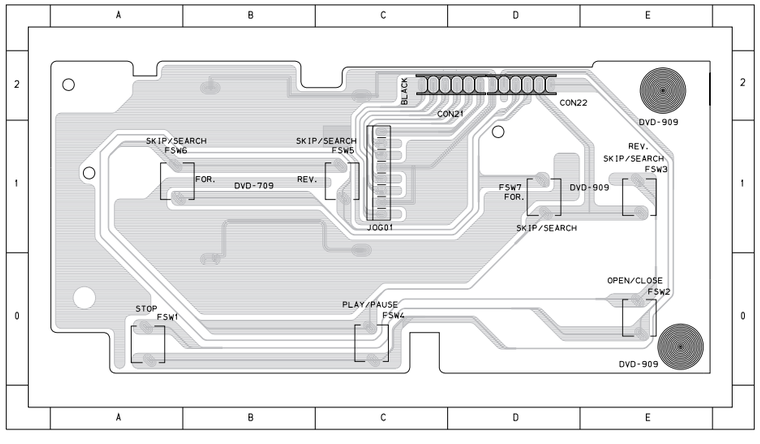
## 11-3 Phone/Power (DVD-909 Only)



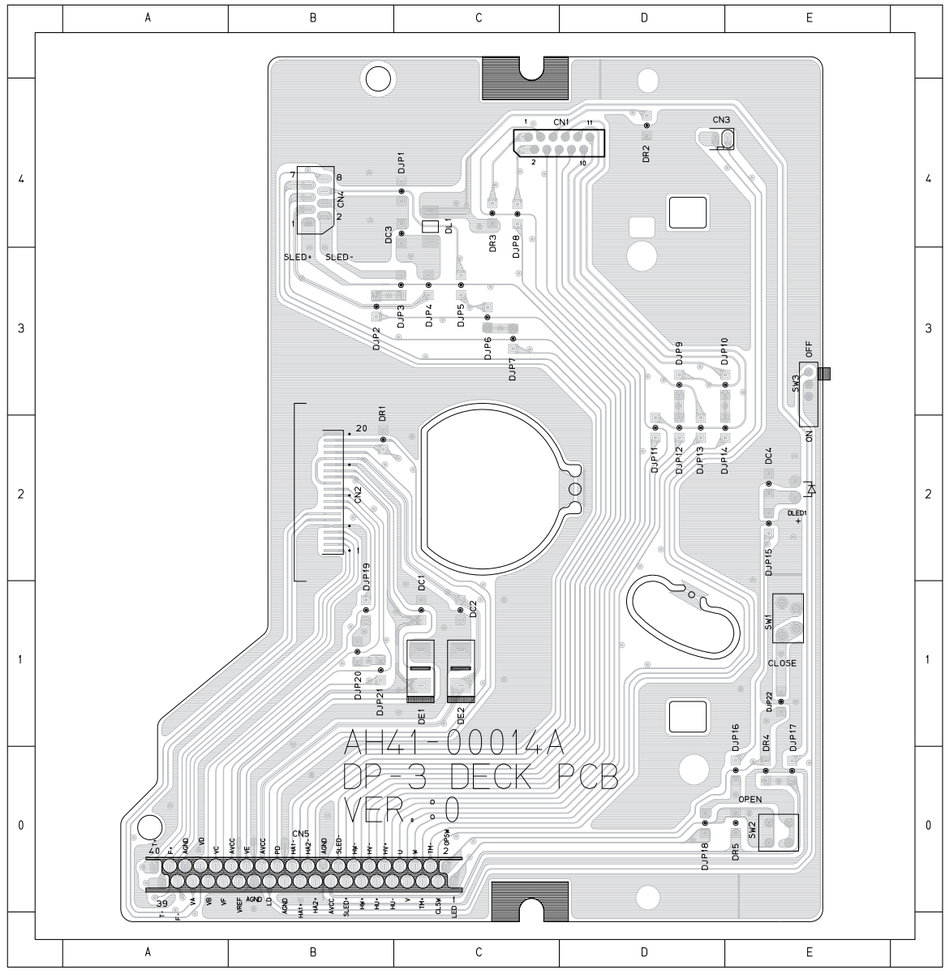

## 11-4 Power (DVD-709 Only)



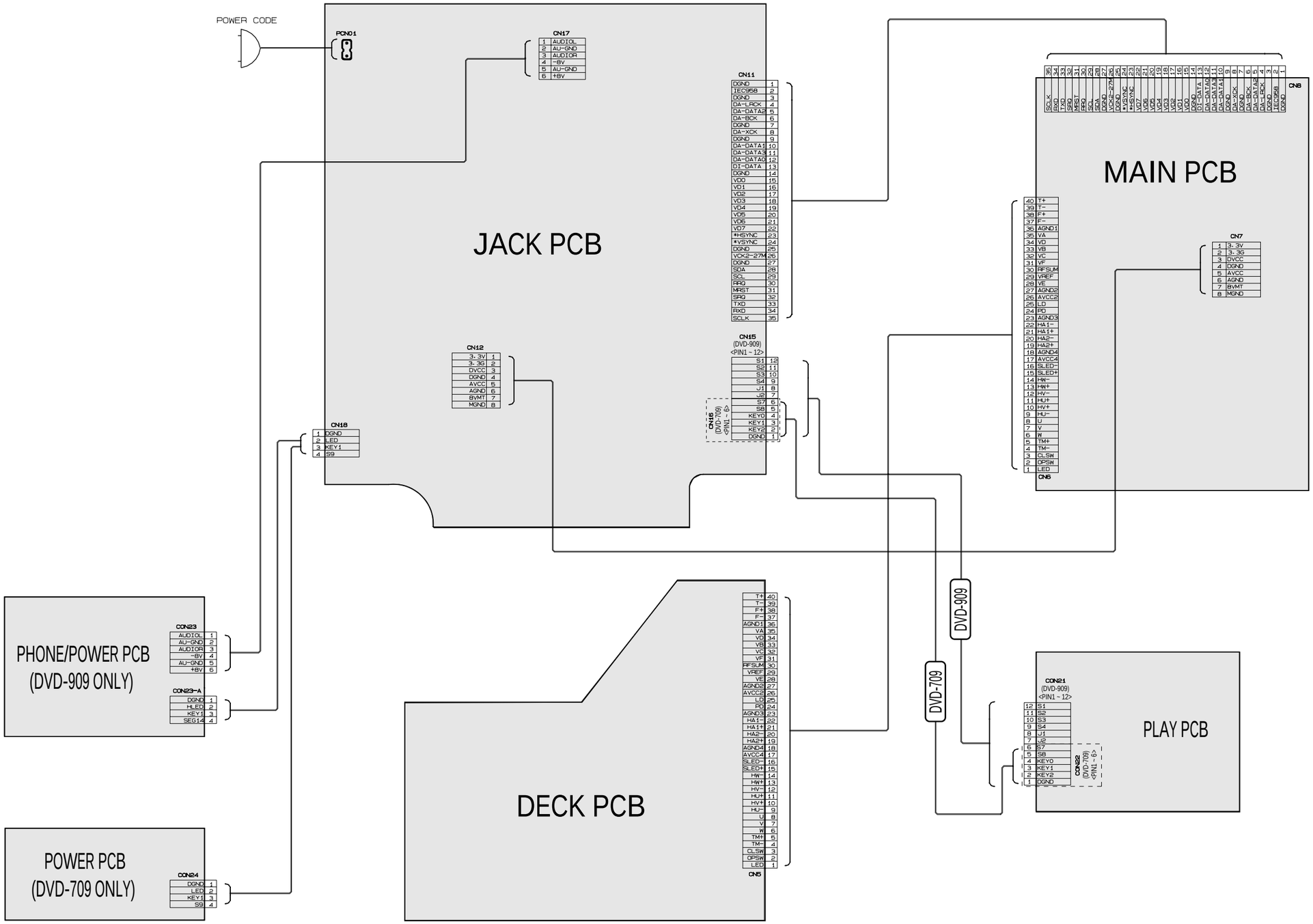

## 11-5 Play




## 11-6 Deck



# 12. Wiring Diagram

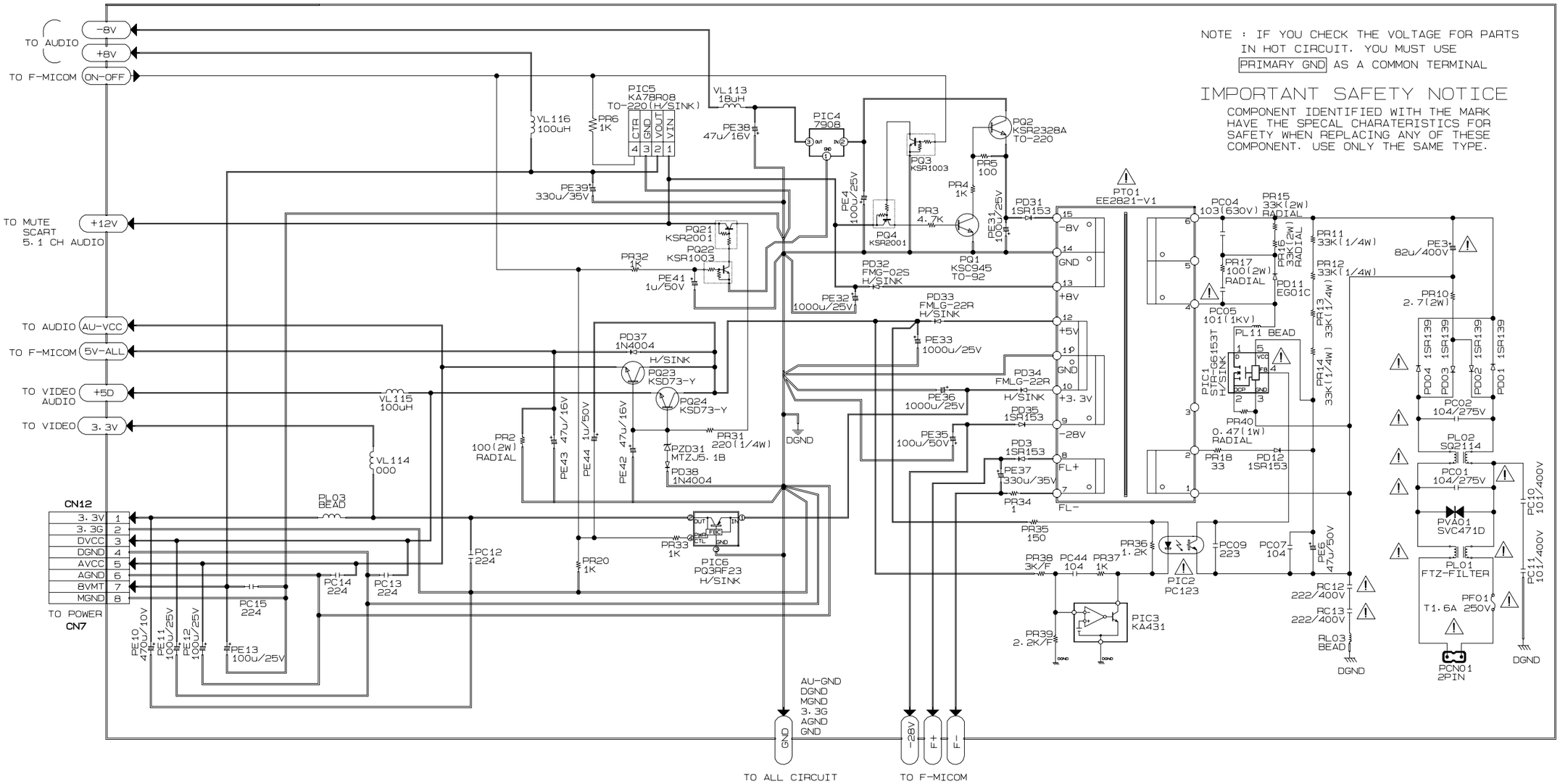


# MEMO

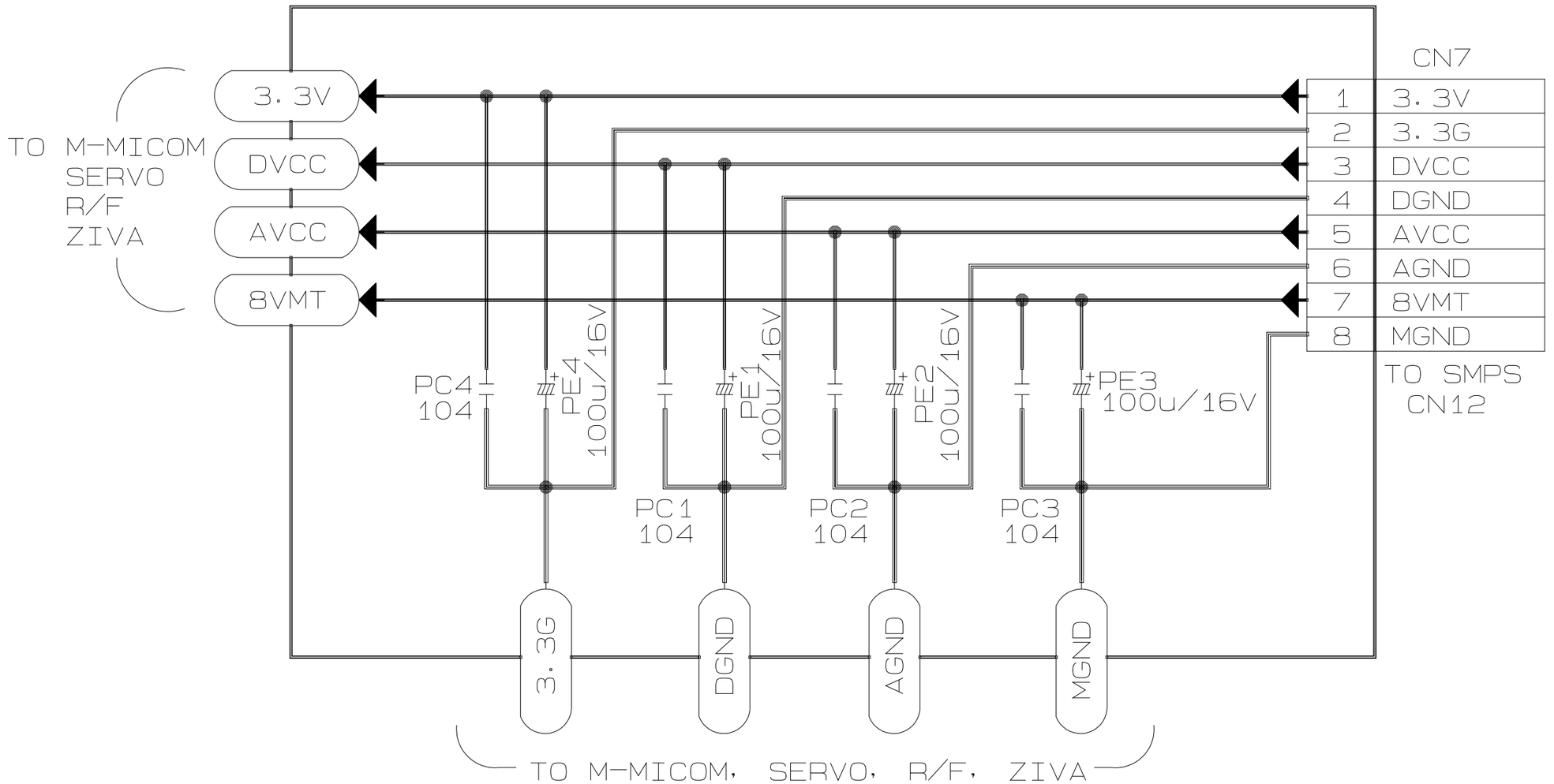
# 13. Schematic Diagrams


13-1 S.M.P.S. - - -

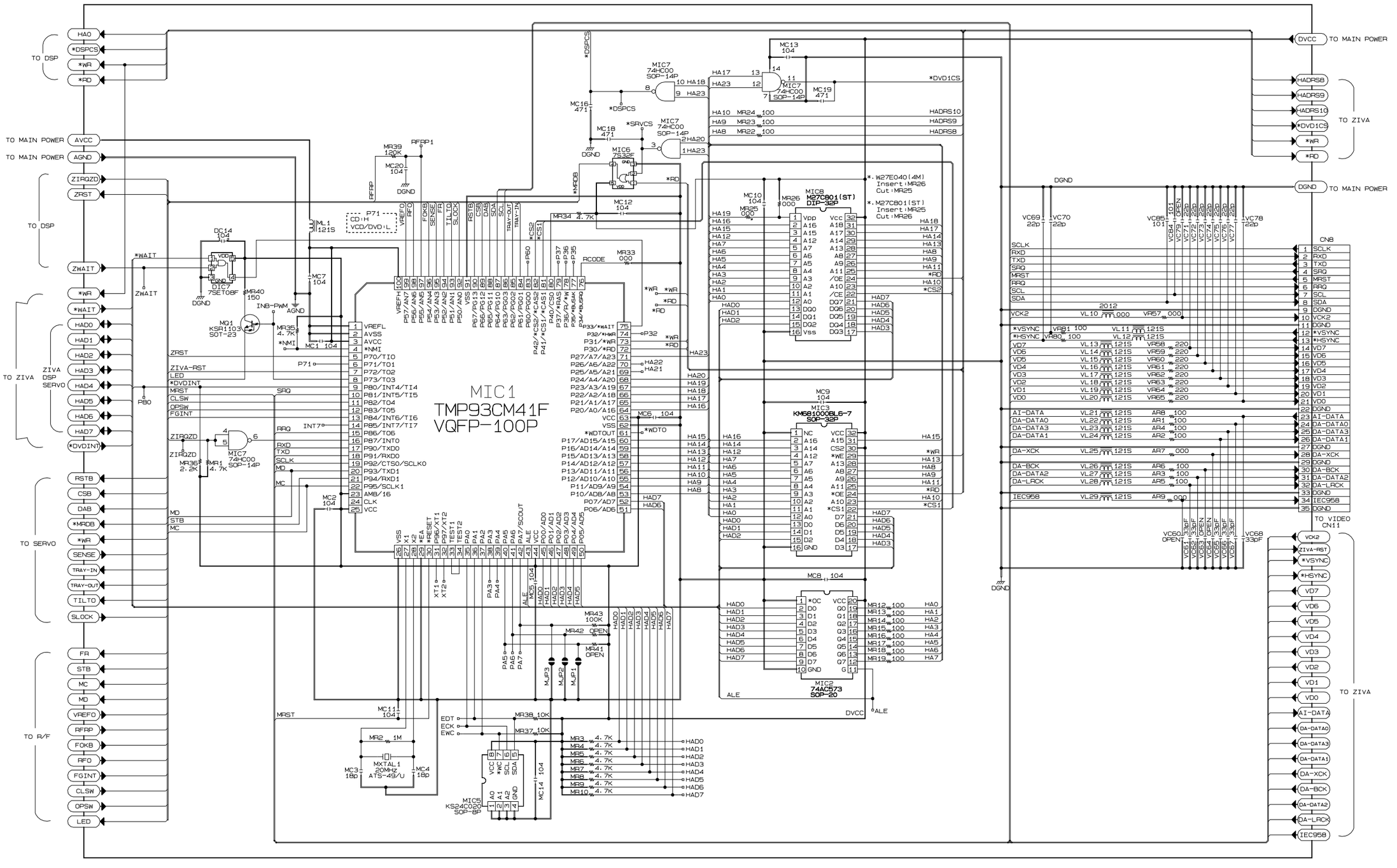
# 13-1 S.M.P.S.


NOTE : IF YOU CHECK THE VOLTAGE FOR PARTS IN HOT CIRCUIT. YOU MUST USE PRIMARY GND AS A COMMON TERMINAL
IMPORTANT SAFETY NOTICE
COMPONENT IDENTIFIED WITH THE MARK HAVE THE SPECAL CHARATERISTICS FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENT. USE ONLY THE SAME TYPE.
TO AUDIO
-8V
+8V
TO F-MICOM
ON-OFF
TO MUTE SCART 5.1 CH AUDIO
+12V
TO AUDIO
AU-VCC
TO F-MICOM
5V-ALL
TO VIDEO AUDIO
+5D
TO VIDEO
3.3V
CN12
3.3V 1
3.3G 2
DVCC 3
DGND 4
AVCC 5
AGND 6
8VMT 7
MGND 8
TO POWER
CN7
PIC5 KA78R08 TO-220(H/SINK)
CTR GND VOUT VIN
VL116 100uH
PR6 1K
VL113 18uH
PE38 47u/16V
PIC4 7908
PQ2 KSR2328A TO-220
PQ3 KSR1003
PR5 100
PR4 1K
PR3 4.7K
PQ4 KSR2001
PE39 330u/35V
PE4 100u/25V
PE31 100u/25V
PD31 1SR153
PQ21 KSR2001
PQ22 KSR1003
PR32 1K
PE41 1u/50V
PD32 FMG-02S H/SINK
PQ1 KSC945 TO-92
PE32 1000u/25V
PD33 FMLG-22R H/SINK
PE33 1000u/25V
PD34 FMLG-22R H/SINK
PE36 1000u/25V
PD35 1SR153
PE35 100u/50V
PD3 1SR153
PE37 330u/35V
PR34 1
PR35 150
PR36 1.2K
PR38 3K/F
PC44 104
PR37 1K
PIC3 KA431
PR39 2.2K/F
PIC2 PC123
PC09 223
PC07 104
PE6 47u/50V
RC12 222/400V
RC13 222/400V
RL03 BEAD
PT01 EE2821-V1
PC04 103(630V)
PR15 33K(2W) RADIAL
PR16 33K(2W) RADIAL
PR17 100(2W) RADIAL
PD11 EG01C
PC05 101(1KV)
PL11 BEAD
PIC1 STR-G6153T H/SINK
PR40 0.47(1W) RADIAL
PR18 33
PD12 1SR153
PR11 33K(1/4W)
PR12 33K(1/4W)
PR13 33K(1/4W)
PR14 33K(1/4W)
PE3 82u/400V
PR10 2.7(2W)
PD04 1SR139
PD03 1SR139
PD02 1SR139
PD01 1SR139
PC02 104/275V
PL02 SQ2114
PC01 104/275V
PVA01 SVC471D
PL01 FTZ-FILTER
PF01 T1.6A 250V
PC10 101/400V
PC11 101/400V
PCN01 2PIN
DGND
VL115 100uH
VL114 000
PR2 100(2W) RADIAL
PE43 47u/16V
PE44 1u/50V
PE42 47u/16V
PD37 1N4004
H/SINK
PQ23 KSD73-Y
PQ24 KSD73-Y
PR31 220(1/4W)
PZD31 MTZJ5.1B
PD38 1N4004
PL03 BEAD
PR33 1K
PIC6 PQ3RF23 H/SINK
PR20 1K
PC12 224
PC14 224
PC13 224
PC15 224
PE10 470u/10V
PE11 100u/25V
PE12 100u/25V
PE13 100u/25V
AU-GND
DGND
MGND
3.3G
AGND
GND
TO ALL CIRCUIT
-28V
F+
F-
TO F-MICOM

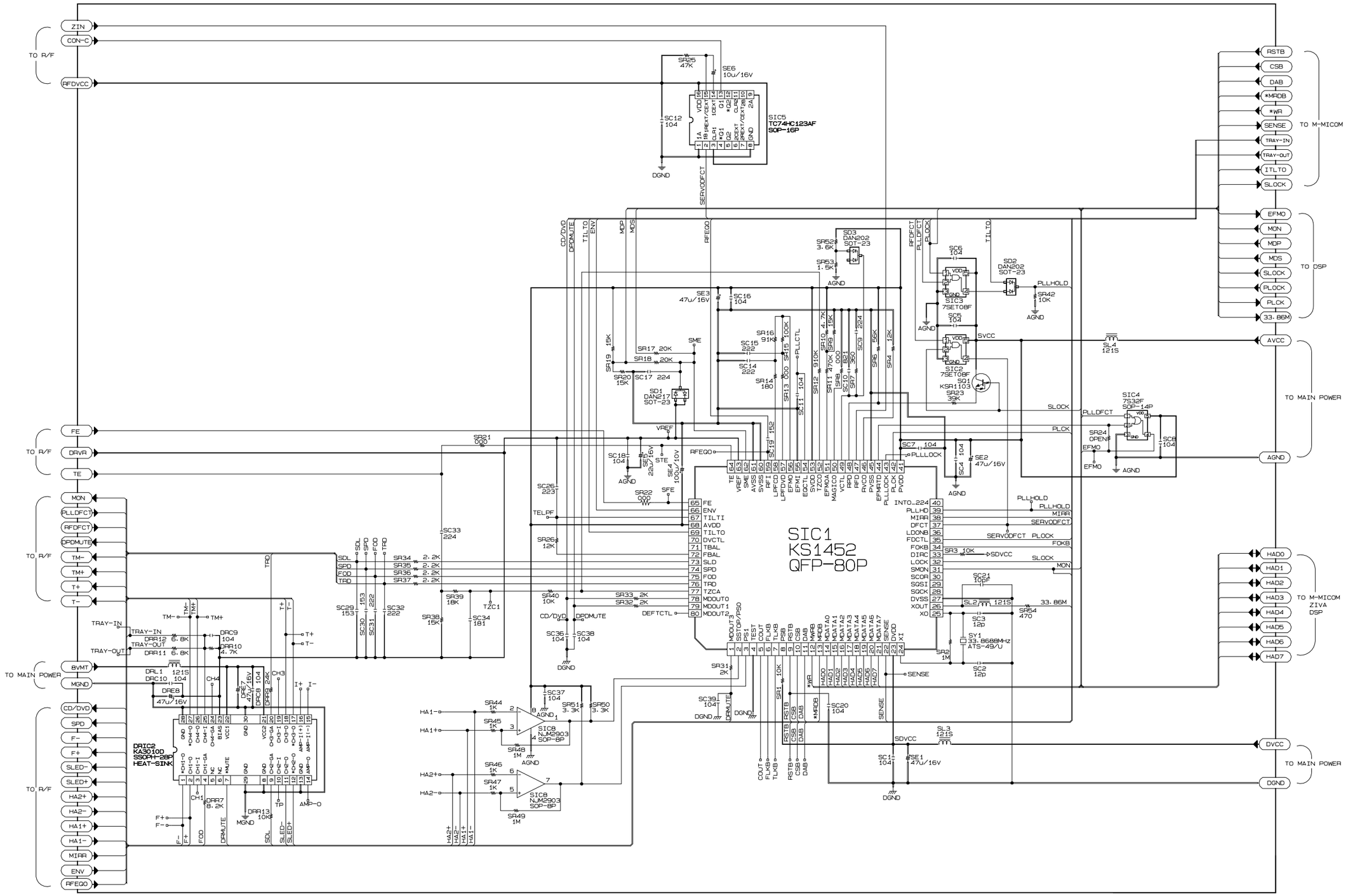
## 13-2 Main Power Supply



## 13-3 Main Micom



## 13-4 Servo


ZIN
CON-C
TO R/F
RFDVCC
SR55 47K
SE6 10u/16V
SIC5 TC74HC123AF SOP-16P
SC12 104
DGND
SERVODFCT
RSTB
CSB
DAB
*MRDB
*WR
SENSE
TRAY-IN
TRAY-OUT
ITLTO
SLOCK
TO M-MICOM
EFMO
MON
MDP
MDS
TO DSP
AVCC
TO MAIN POWER
CD/DVD
DPDMUTE
TILTO
ENV
MDP
MDS
RFEQO
SD3 DAN202 SOT-23
SR52 3.6K
SR53 1.6K
AGND
SE3 47u/16V
SC16 104
SR16 91K
SC15 222
SC14 222
SR14 180
SR13 100K
SR15 100K
PLLCTL
SR17 20K
SME
SR18 20K
SR19 15K
SR20 15K
SC17 224
SD1 DAN217 SOT-23
VREF
SC18 104
SE5 22u/16V
STE
SE4 100u/10V
SFE
SR22 000
SR21 000
SC11 104
SR12 910K
SR11 470K
SR8 000
SC10 821
SR7 360
SC9 224
SR6 56K
SR4 12K
SR10 4.7K
SR9 15K
RFDFCT
PLLDFCT
PLOCK
SC6 104
SIC3 7SET08F
SD2 DAN202 SOT-23
PLLHOLD
SR42 10K
SC5 104
SIC2 7SET08F
SVCC
SL4 1215
SQ1 KSR1103
SR23 3GK
SIC4 7S32F SOP-14P
SR24 OPEN
SC8 104
SE2 47u/16V
SC7 104
PLLLOCK
SC4 104
SIC1 KS1452 QFP-80P
SR3 10K
SDVCC
SC21 10pF
SL2 1215
33.86M
SR54 470
SC3 12p
SY1 33.8688M-HZ ATS-49/U
SC2 12p
SR2 1M
SL3 1215
SC1 104
SE1 47u/16V
DVCC
HAD0
HAD1
HAD2
HAD3
HAD4
HAD5
HAD6
HAD7
TO M-MICOM ZIVA DSP
FE
DRVR
TE
TO R/F
MON
PLLDFCT
RFDFCT
DPDMUTE
TM-
TM+
T+
T-
TRAY-IN
TRAY-OUT
BVMT
MGND
TO MAIN POWER
CD/DVD
SPD
F-
F+
SLED-
SLED+
HA2+
HA2-
HA1+
HA1-
MIRR
ENV
RFEQO
DRIC2 KA3010D SSOPH-28P HEAT-SINK
DRE12 6.8K
DRE10 4.7K
DRE11 6.8K
DRC9 104
DRL1 121S
DRC10 104
DRE8 47u/16V
DRE7 47u/16V
DRC8 104
DRF8 24K
DRR7 6.2K
DRR13 10K
SR44 1K
SR45 1K
SR48 1M
SIC8 NJM2903 SOP-8P
SR46 1K
SR47 1K
SR49 1M
SR51 3.3K
SR50 3.3K
SC37 104
SC39 104
SR31 2K
SR1 10K
SC20 104
SC33 224
SR34 2.2K
SR35 2.2K
SR36 2.2K
SR37 2.2K
SC29 153
SC30 153
SC31 222
SC32 222
SR39 18K
SR38 15K
SC34 181
TZC1
SR40 10K
SR33 2K
SR32 2K
SC36 104
SC38 104
DEFTCTL
SR26 12K
SC26 223
TELPF
SC35 104
SC40 104
SC41 104
SC42 104
SC43 104
SC44 104
SC45 104
SC46 104
SC47 104
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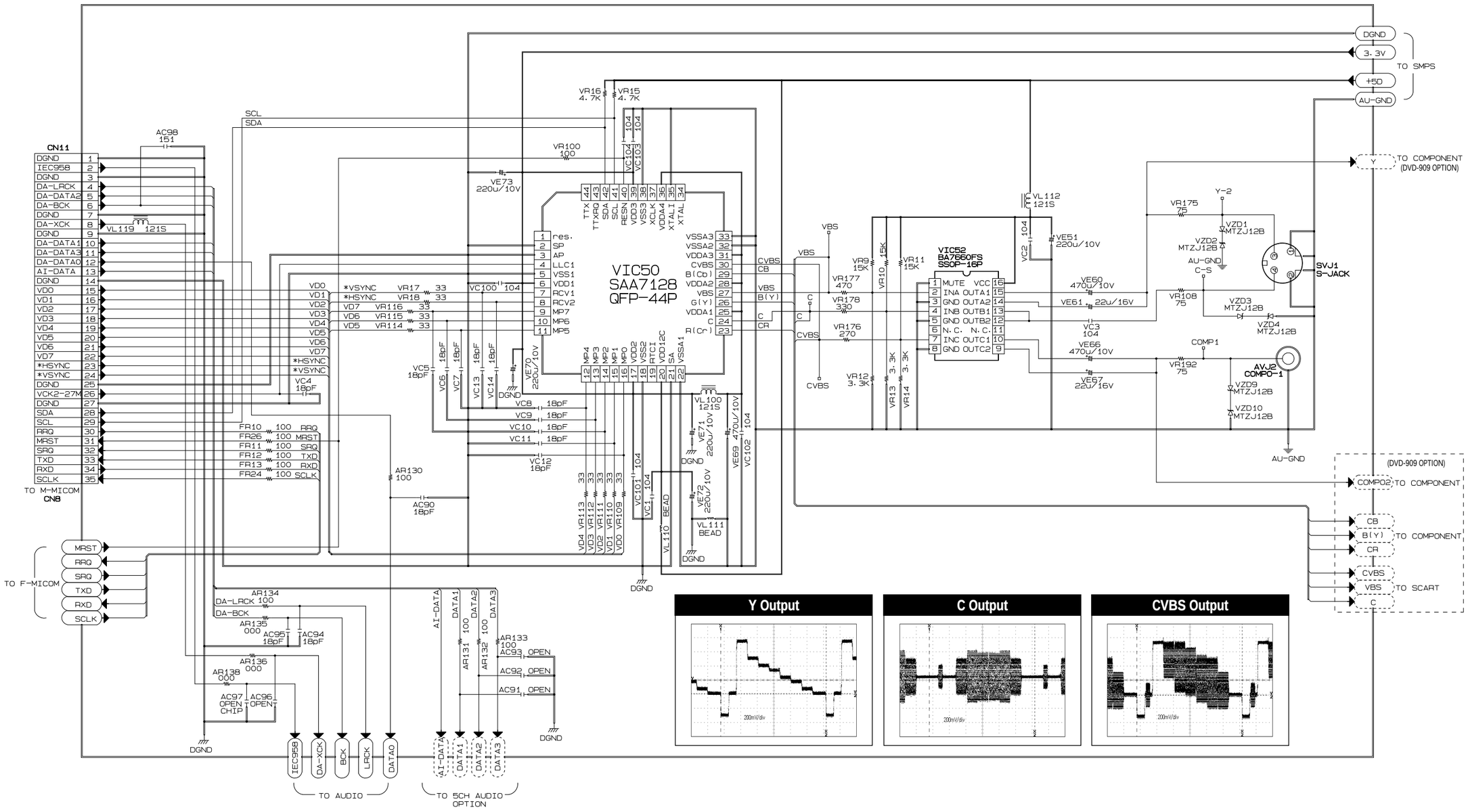
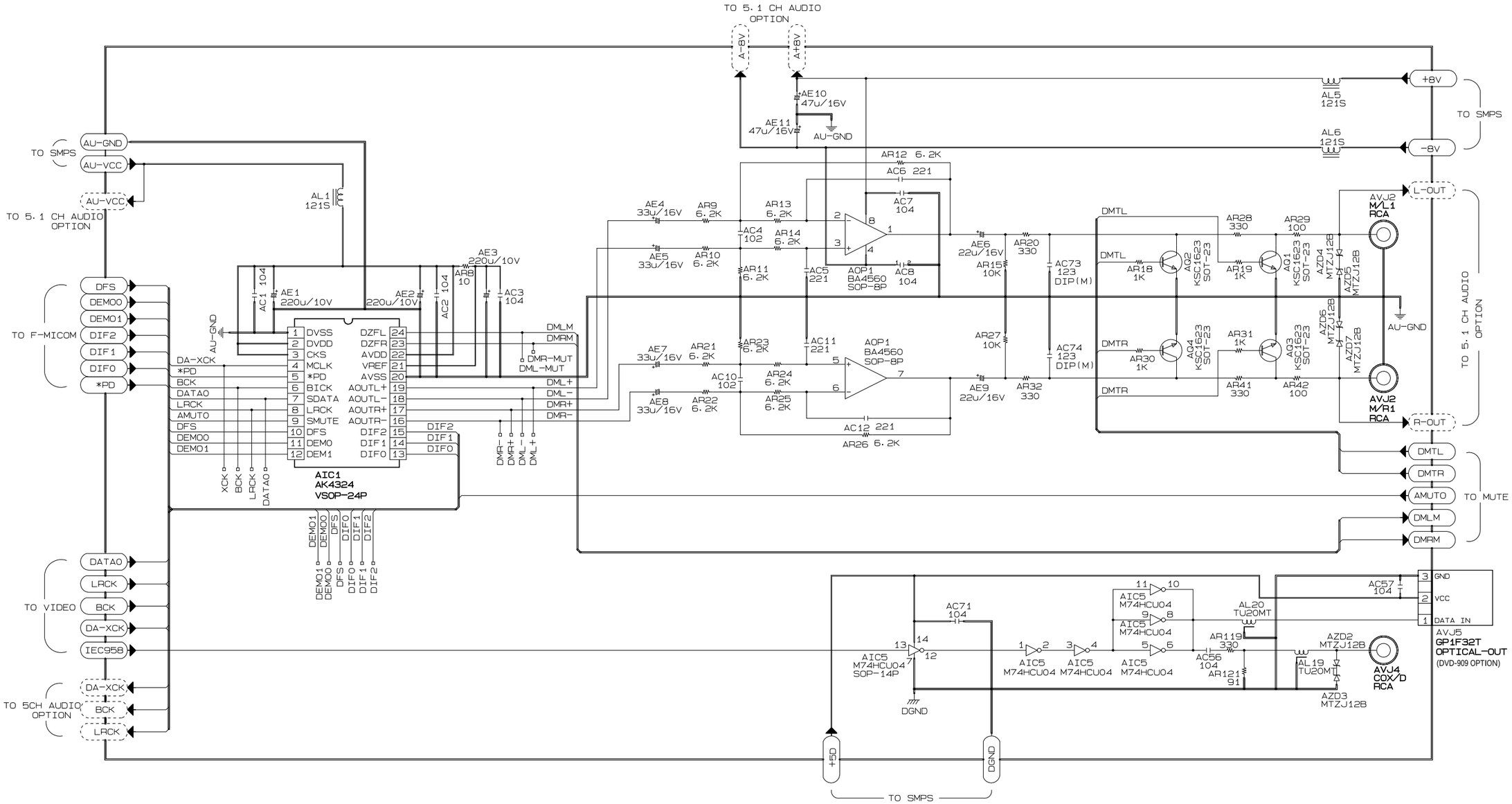
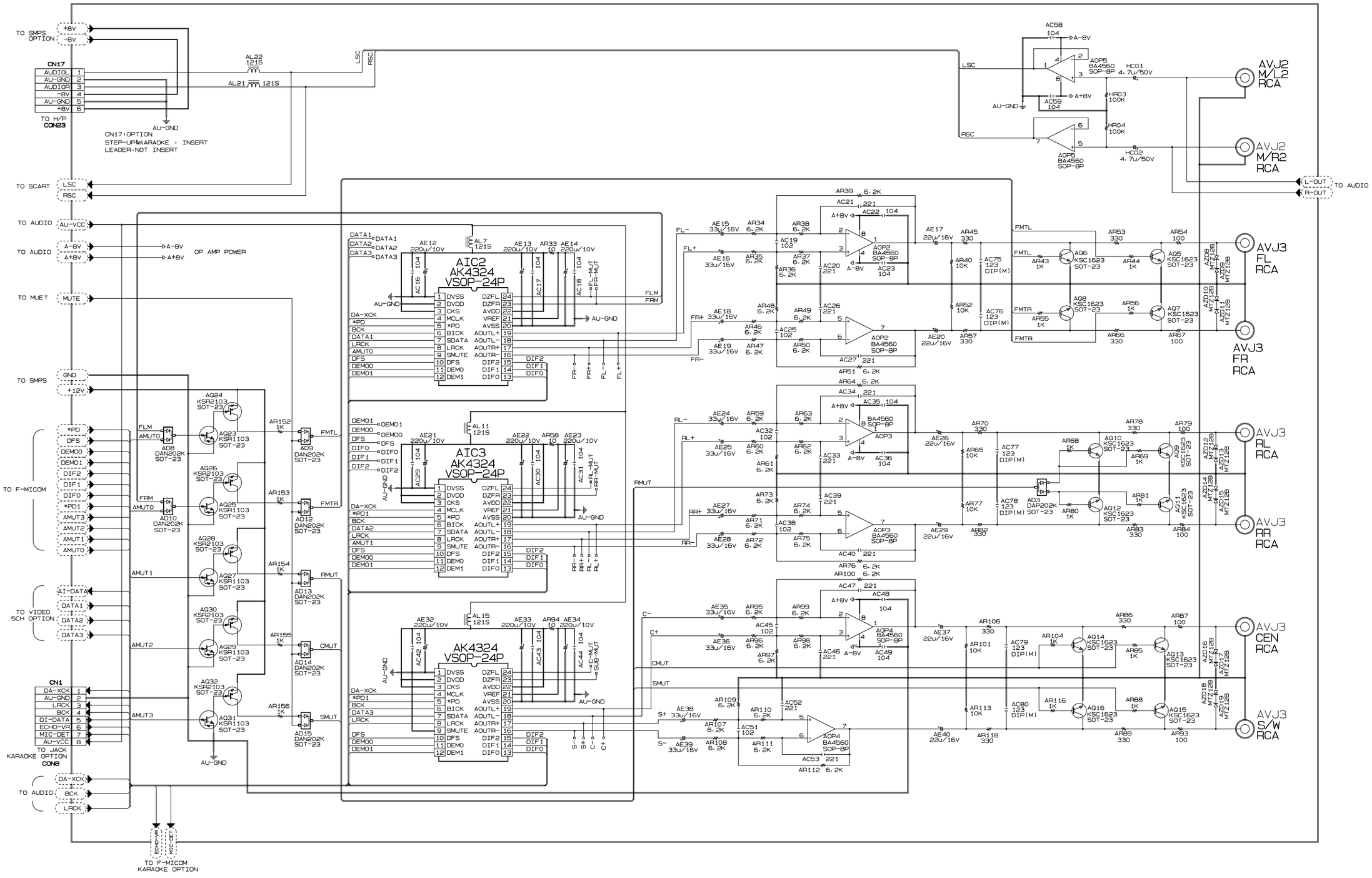
## 13-5 Video


CN11
TO M-MICOM CNB
TO F-MICOM
VIC50 SAA7128 QFP-44P
VIC52 BA7660FS SSOP-16P
SCL
SDA
DGND
3.3V
+5D
AU-GND
TO SMPS
TO COMPONENT (DVD-909 OPTION)
SVJ1 S-JACK
AVJ2 COMPO-1
COMP1
Y-2
(DVD-909 OPTION)
COMPO2 TO COMPONENT
CB
B(Y) TO COMPONENT
CR
CVBS
VBS TO SCART
C
TO AUDIO
TO 5CH AUDIO OPTION
Y Output
C Output
CVBS Output

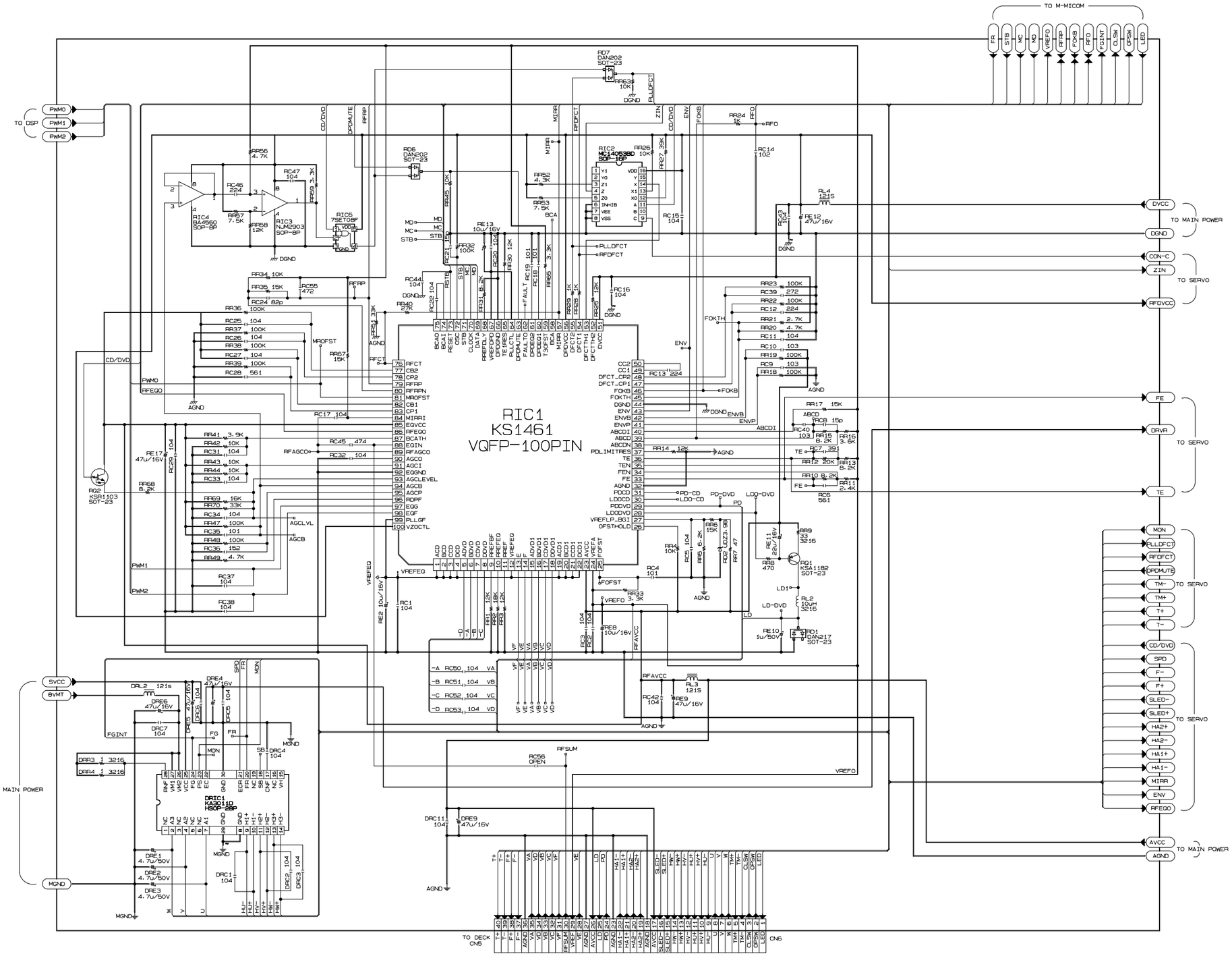
## 13-6 Audio


TO 5.1 CH AUDIO OPTION
A-8V
A+8V
AE10 47u/16V
AE11 47u/16V
AU-GND
AL5 121S
AL6 121S
+8V
-8V
TO SMPS
AU-GND
AU-VCC
AU-VCC
TO 5.1 CH AUDIO OPTION
AL1 121S
AR12 6.2K
AC6 221
AC7 104
AE4 33u/16V
AR9 6.2K
AR13 6.2K
AC4 102
AR14 6.2K
AE5 33u/16V
AR10 6.2K
AR11 6.2K
AC5 221
AOP1 BA4560 SOP-8P
AC8 104
AE6 22u/16V
AR15 10K
AR20 330
AC73 123 DIP(M)
DMTL
AR28 330
AR29 100
AR18 1K
AQ2 KSC1623 SOT-23
AR19 1K
AQ1 KSC1623 SOT-23
AZD4 MTZJ12B
AZD5 MTZJ12B
AVJ2 M/L1 RCA
L-OUT
AE3 220u/10V
AR8 10
AE1 220u/10V
AE2 220u/10V
AC1 104
AC2 104
AC3 104
AU-GND
DFS
DEMOO
DEMO1
DIF2
DIF1
DIFO
*PD
TO F-MICOM
DA-XCK
*PD
BCK
DATAO
LRCK
AMUTO
DFS
DEMOO
DEMO1
1 DVSS
2 DVDD
3 CKS
4 MCLK
5 *PD
6 BICK
7 SDATA
8 LRCK
9 SMUTE
10 DFS
11 DEMO
12 DEM1
DZFL 24
DZFR 23
AVDD 22
VREF 21
AVSS 20
AOUTL+ 19
AOUTL- 18
AOUTR+ 17
AOUTR- 16
DIF2 15
DIF1 14
DIFO 13
DMLM
DMRM
DMR-MUT
DML-MUT
DML+
DML-
DMR+
DMR-
AE7 33u/16V
AR21 6.2K
AR23 6.2K
AC10 102
AR24 6.2K
AE8 33u/16V
AR22 6.2K
AR25 6.2K
AC11 221
AOP1 BA4560 SOP-8P
AC12 221
AR26 6.2K
AR27 10K
AR32 330
AE9 22u/16V
AC74 123 DIP(M)
DMTR
AR30 1K
AQ4 KSC1623 SOT-23
AR31 1K
AQ3 KSC1623 SOT-23
AR41 330
AR42 100
AZD6 MTZJ12B
AZD7 MTZJ12B
AVJ2 M/R1 RCA
R-OUT
AU-GND
TO 5.1 CH AUDIO OPTION
DMTL
DMTR
AMUTO
DMLM
DMRM
TO MUTE
AIC1 AK4324 VSOP-24P
XCK
BCK
LRCK
DATAO
DEMO1
DEMOO
DFS
DIFO
DIF1
DIF2
DATAO
LRCK
BCK
TO VIDEO
DA-XCK
IEC958
DA-XCK
BCK
LRCK
TO 5CH AUDIO OPTION
AC71 104
AIC5 M74HCU04 SOP-14P
DGND
AIC5 M74HCU04
AIC5 M74HCU04
AIC5 M74HCU04
AIC5 M74HCU04
AL20 TU20MT
AR119 330
AC56 104
AR121 91
AL19 TU20MT
AZD2 MTZJ12B
AZD3 MTZJ12B
AVJ4 COX/D RCA
AC57 104
GND
VCC
DATA IN
AVJ5 GP1F32T OPTICAL-OUT
(DVD-909 OPTION)
+5D
DGND
TO SMPS

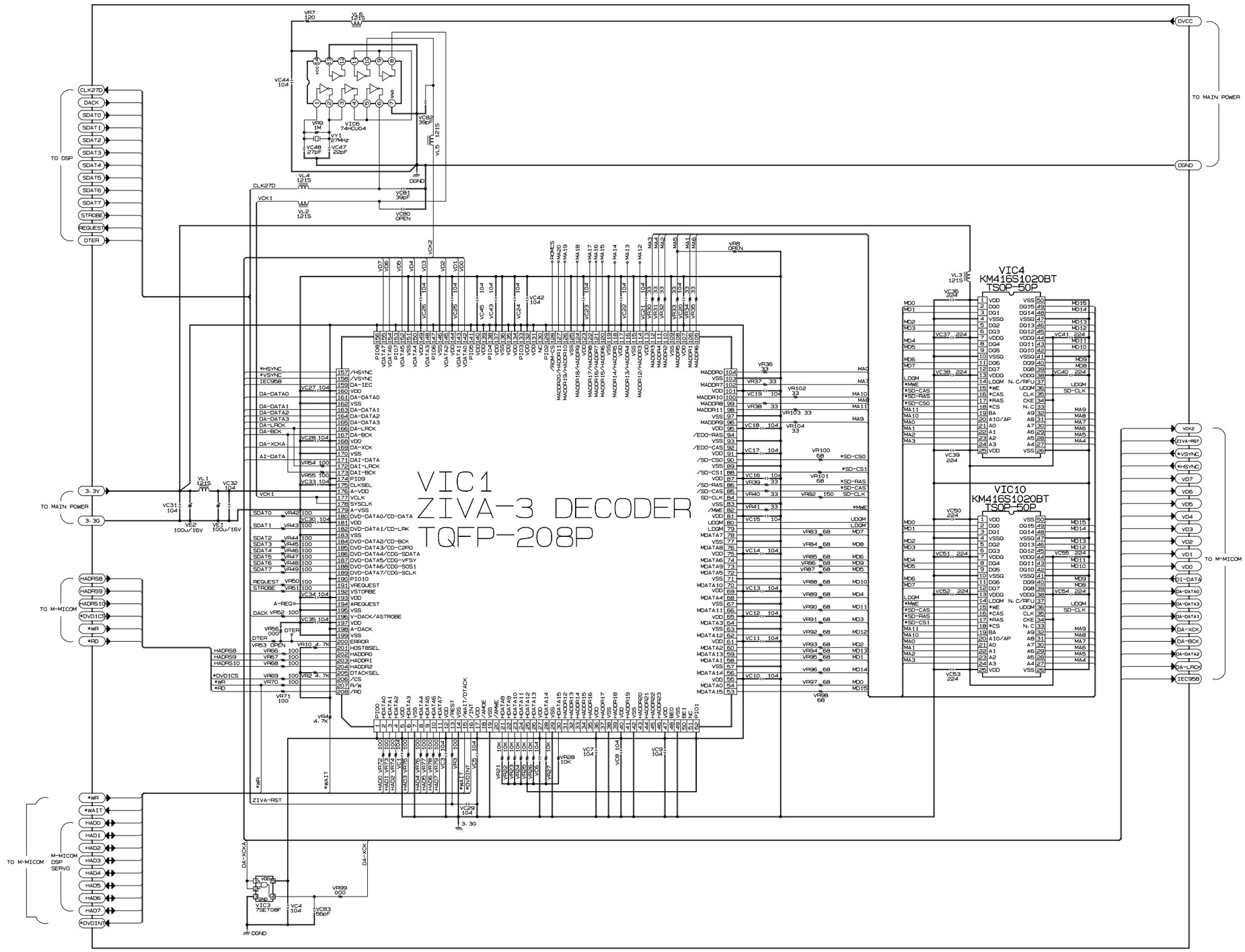
# 13-7 5.1 Channel Audio (DVD-909 Only)



## 13-8 RF


RIC1
KS1461
VQFP-100PIN
TO M-MICOM
TO MAIN POWER
TO SERVO
TO DECK
CN5

## 13-9 ZiVA


VIC1
ZIVA-3 DECODER
TQFP-208P
VIC4
KM416S1020BT
TSOP-50P
VIC10
KM416S1020BT
TSOP-50P
TO MAIN POWER
TO DSP
TO M-MICOM
TO M-MICOM
M-MICOM
DSP
SERVO
TO M-MICOM
DVCC
DGND
3.3V
3.3G
CLK27D
DACK
SDAT0
SDAT1
SDAT2
SDAT3
SDAT4
SDAT5
SDAT6
SDAT7
STROBE
REQUEST
DTER
VCK1
VCK2
ZIVA-RST
*WR
*WAIT
*RD
*DVDINT
*HSYNC
*VSYNC
IEC958
DA-DATA0
DA-DATA1
DA-DATA2
DA-DATA3
DA-LRCK
DA-BCK
DA-XCKA
AI-DATA
A-REQ
DACK
DTER
*CS
R/W
ERROR
HOSTSEL
HADDR0
HADDR1
HADDR2
HADRS8
HADRS9
HADRS10
*DVD1CS
HAD0
HAD1
HAD2
HAD3
HAD4
HAD5
HAD6
HAD7
*DVDINT
MD0
MD1
MD2
MD3
MD4
MD5
MD6
MD7
MD8
MD9
MD10
MD11
MD12
MD13
MD14
MD15
*SD-CS0
*SD-CS1
*SD-RAS
*SD-CAS
SD-CLK
*MWE
LDQM
UDQM
MA0
MA1
MA2
MA3
MA4
MA5
MA6
MA7
MA8
MA9
MA10
MA11
VIC3
7SET08F
VIC6
74HCU04
VY1
27MHz
VC1
100u/16V
VC2
100u/16V
VC3
VC4
VC5
VC6
VC7
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VR104
VL1
VL2
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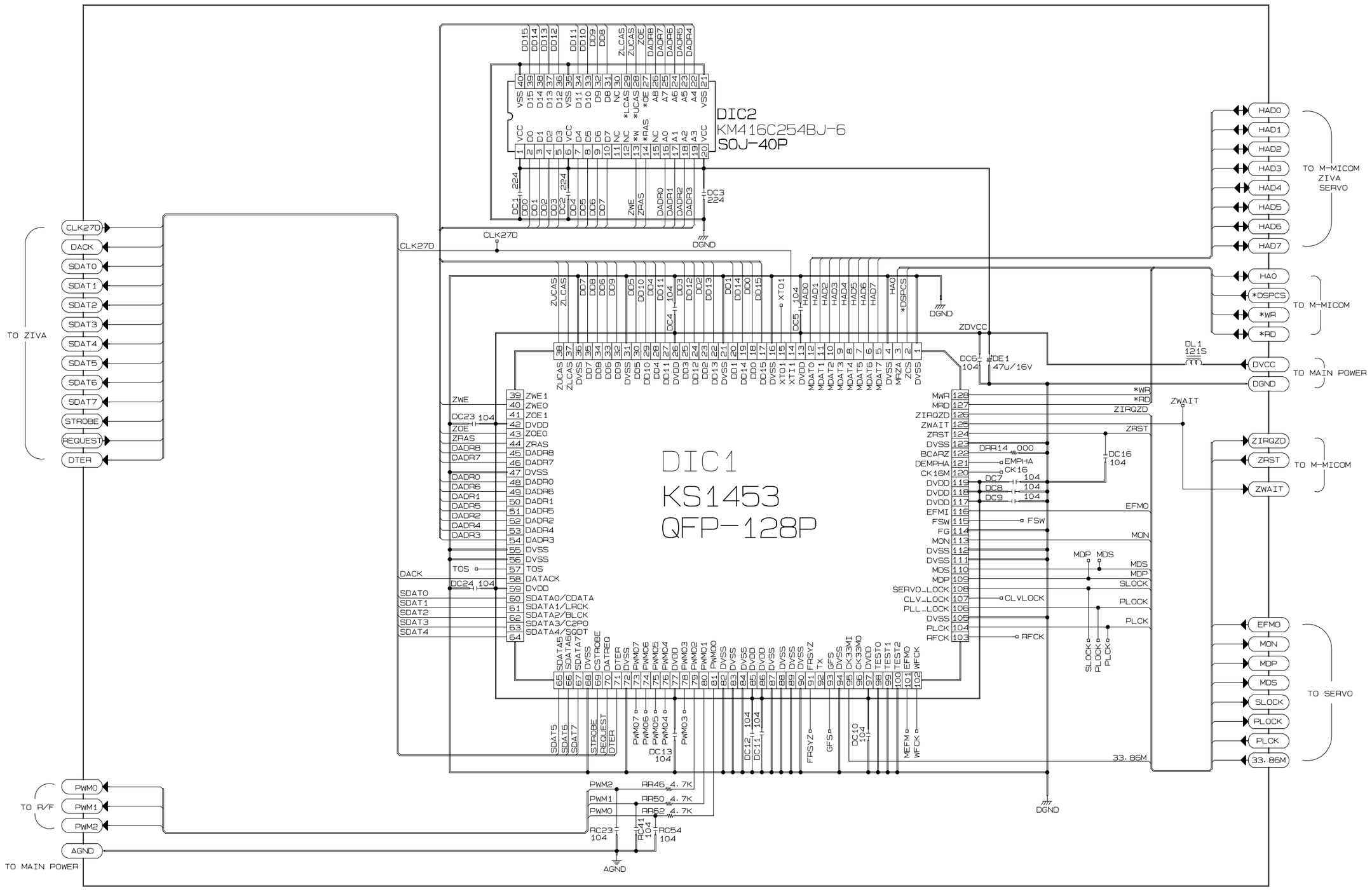
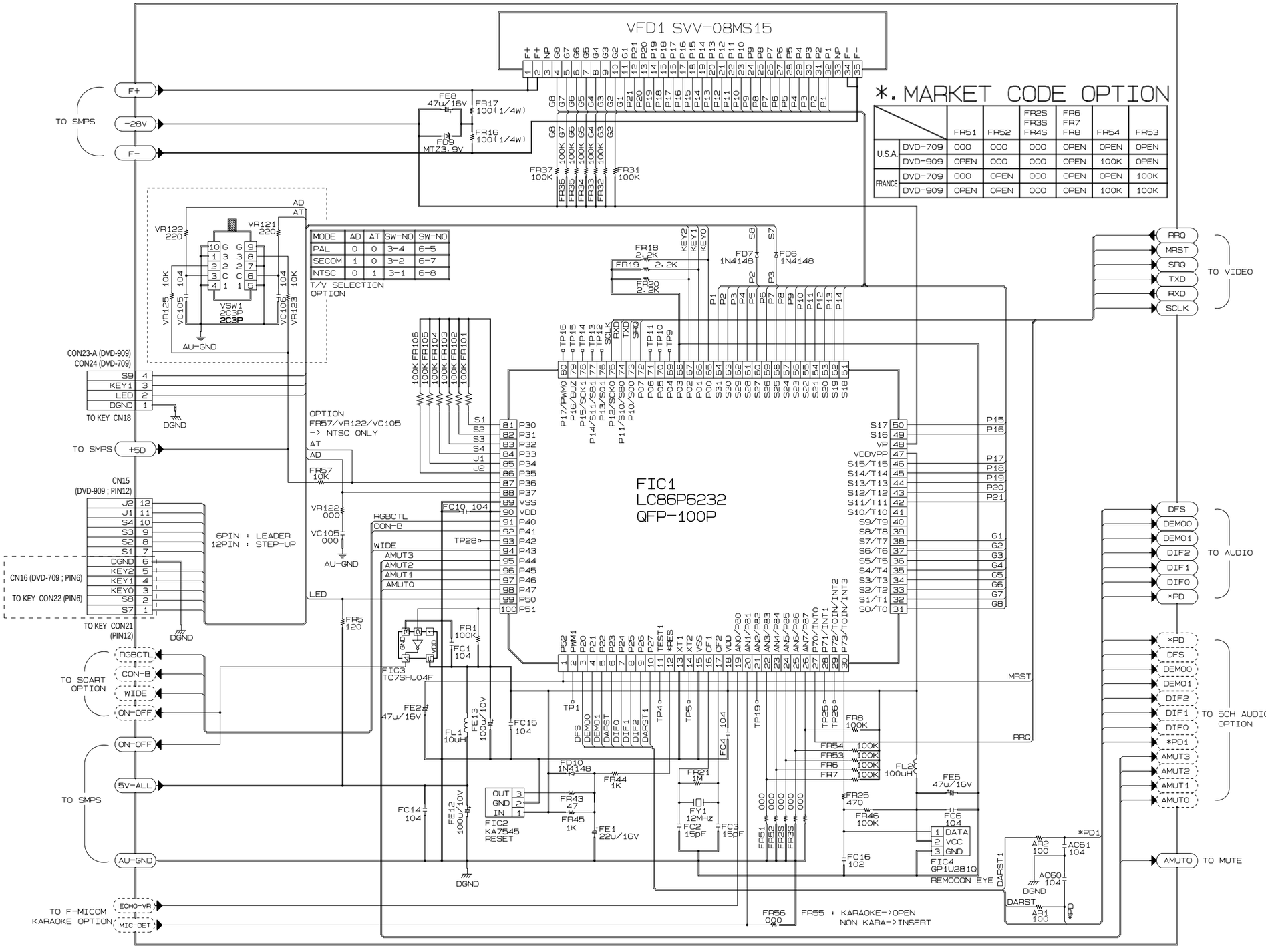
VL5
VL6

## 13-10 DSP

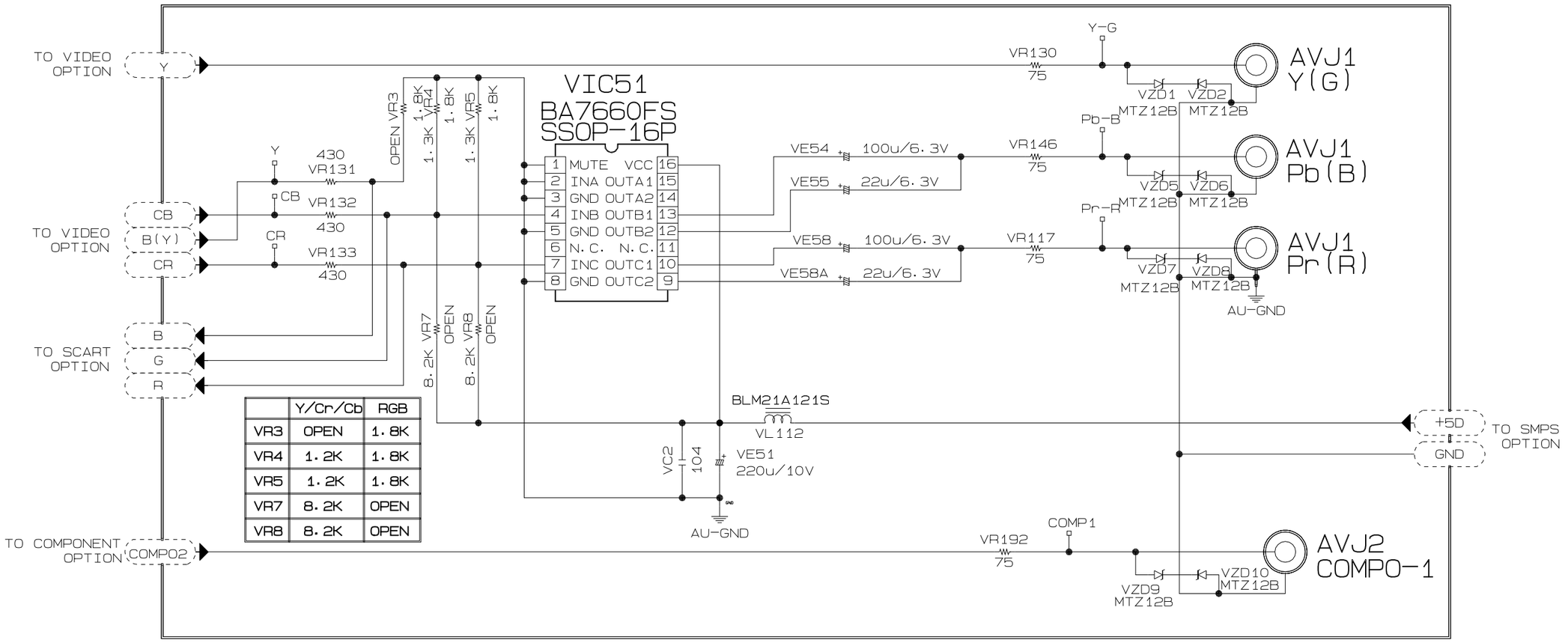

DIC2
KM416C254BJ-6
SOJ-40P
DIC1
KS1453
QFP-128P
TO ZIVA
CLK27D
DACK
SDAT0
SDAT1
SDAT2
SDAT3
SDAT4
SDAT5
SDAT6
SDAT7
STROBE
REQUEST
DTER
TO R/F
PWM0
PWM1
PWM2
AGND
TO MAIN POWER
HAD0
HAD1
HAD2
HAD3
HAD4
HAD5
HAD6
HAD7
TO M-MICOM ZIVA SERVO
HA0
*DSPCS
*WR
*RD
TO M-MICOM
DVCC
DGND
TO MAIN POWER
ZIRQZD
ZRST
ZWAIT
TO M-MICOM
EFMO
MON
MDP
MDS
SLOCK
PLOCK
PLCK
33.86M
TO SERVO
ZDVCC
DL1 121S
DE1 47u/16V
DC6 104
DC16 104
DC7 104
DC8 104
DC9 104
DRR14 000
EMPHA
CK16
FSW
CLVLOCK
RFCK
MDP MDS
SLOCK PLOCK PLCK
ZWE
ZOE
ZRAS
DADR0
DADR1
DADR2
DADR3
DADR4
DADR5
DADR6
DADR7
DADR8
TOS
DC23 104
DC24 104
RR46 4.7K
RR50 4.7K
RR62 4.7K
RC23 104
RC11 104
RC54 104
DC12 104
DC11 104
DC13 104
DC10 104
DC1 224
DC2 224
DC3 224
DC4 104
DC5 104
XTO1
FRSYZ
GFS
MEFM
WFCK

## 13-11 Front Micom/VFD Display



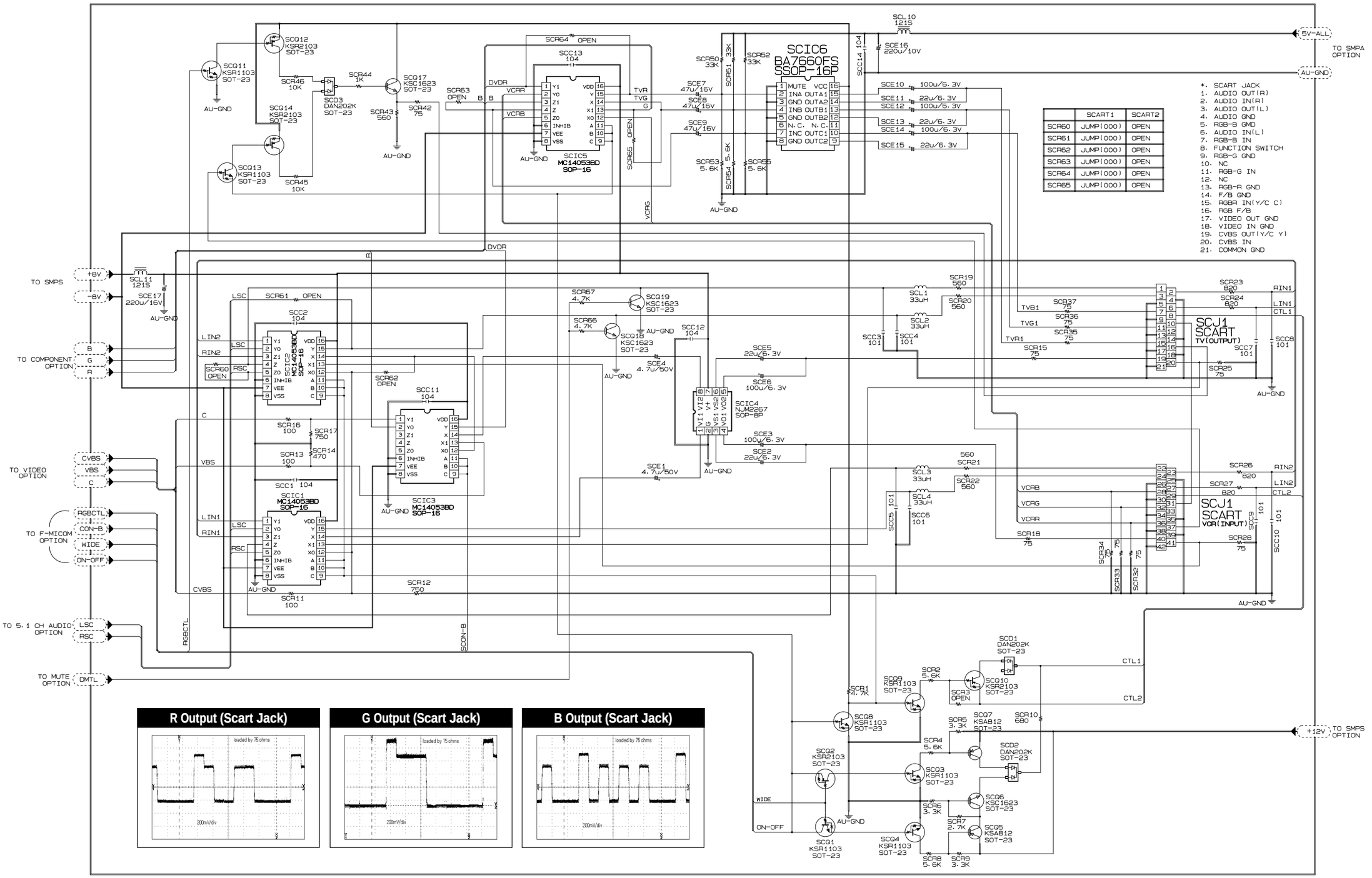

| | | FR51 | FR52 | FR2S FR3S FR4S | FR6 FR7 FR8 | FR54 | FR53 |
|---|---|---|---|---|---|---|---|
| U.S.A. | DVD-709 | 000 | 000 | 000 | OPEN | OPEN | OPEN |
| | DVD-909 | OPEN | 000 | 000 | OPEN | 100K | OPEN |
| FRANCE | DVD-709 | 000 | OPEN | 000 | OPEN | OPEN | 100K |
| | DVD-909 | OPEN | OPEN | 000 | OPEN | 100K | 100K |

## 13-12 Component (DVD-909 Only ; Option)

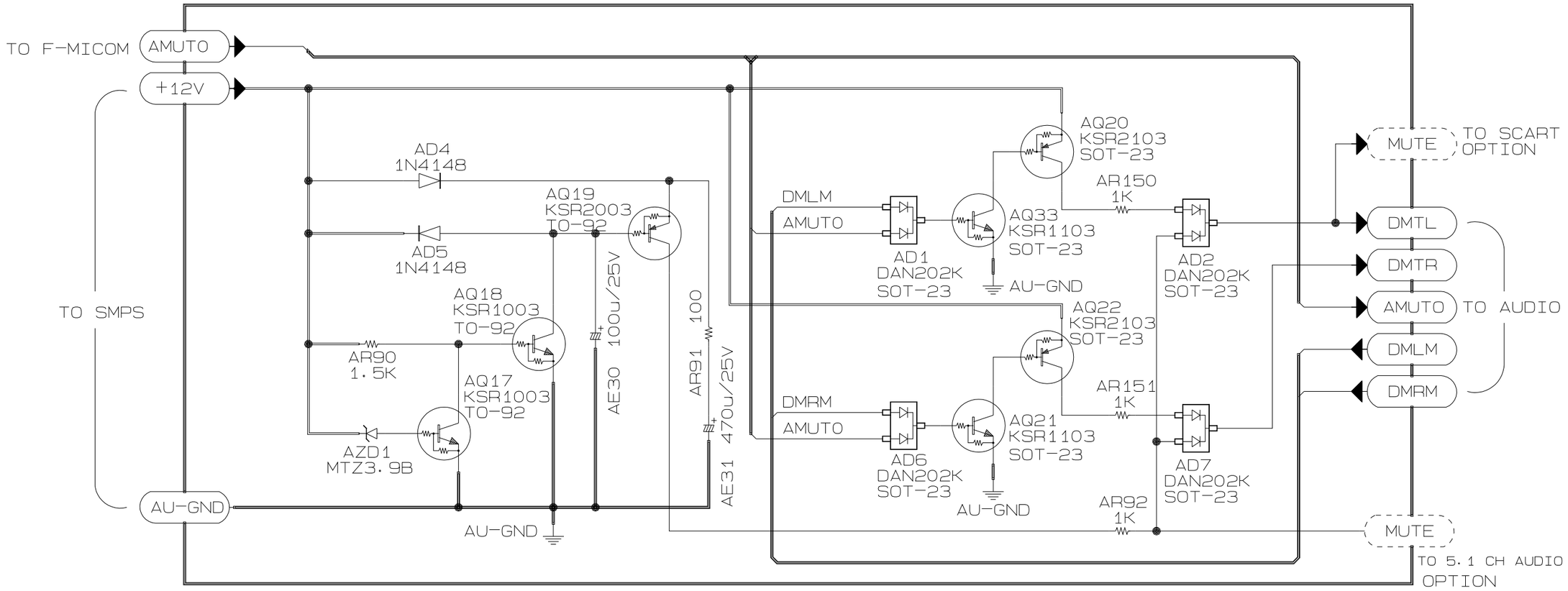



| | Y/Cr/Cb | RGB |
|---|---|---|
| VR3 | OPEN | 1.8K |
| VR4 | 1.2K | 1.8K |
| VR5 | 1.2K | 1.8K |
| VR7 | 8.2K | OPEN |
| VR8 | 8.2K | OPEN |

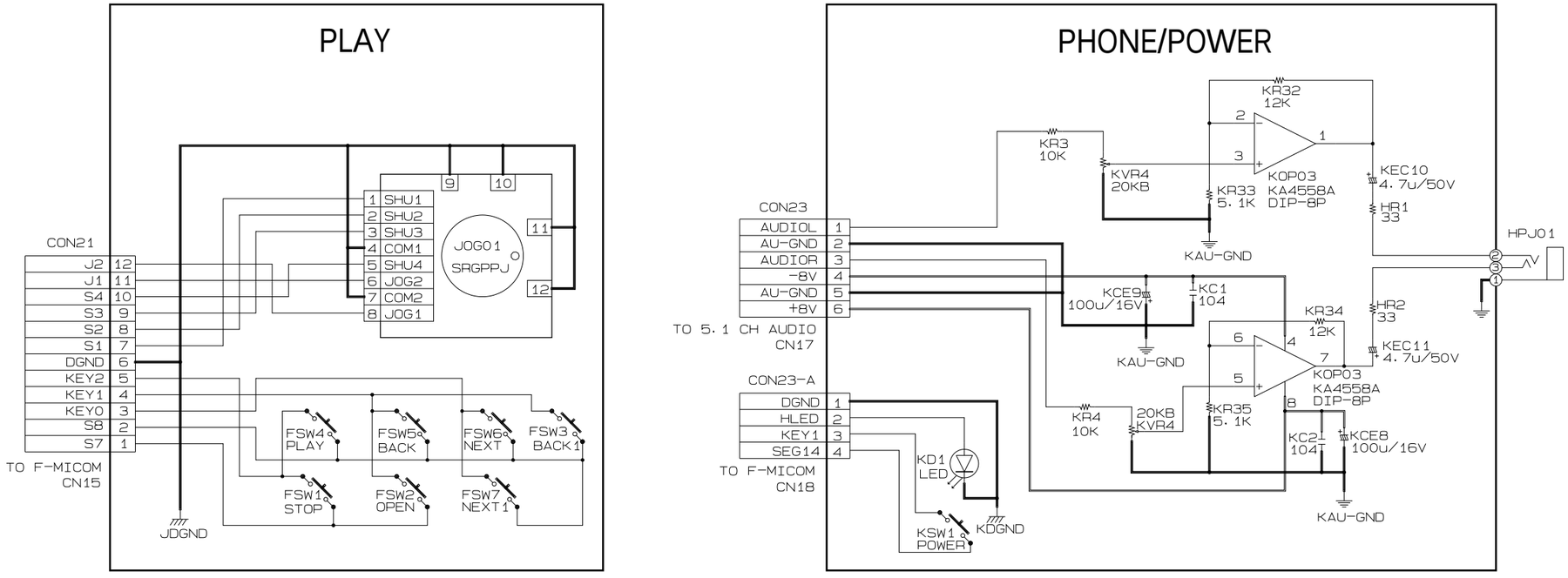
# 13-13 Scart Jack (DVD-909 PAL Only)



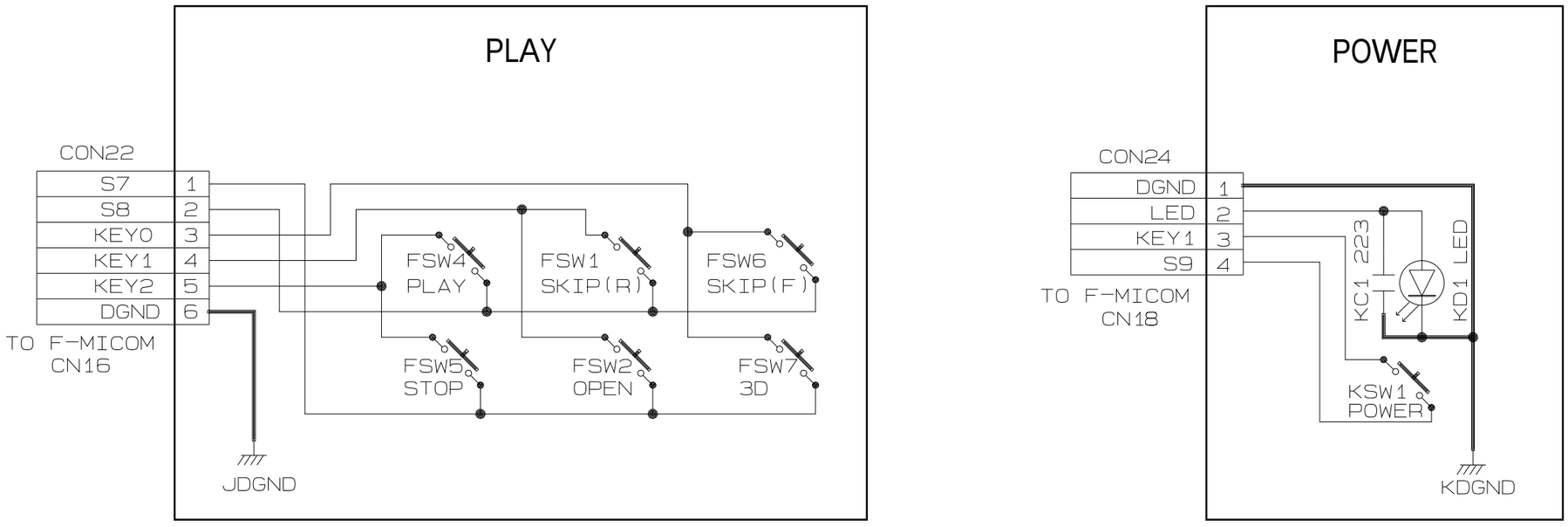
## 13-14 Mute


TO F-MICOM
AMUTO
+12V
TO SMPS
AD4
1N4148
AD5
1N4148
AQ19
KSR2003
TO-92
AQ18
KSR1003
TO-92
AQ17
KSR1003
TO-92
AR90
1.5K
AZD1
MTZ3.9B
AU-GND
AE30 100u/25V
AR91 100
AE31 470u/25V
AU-GND
DMLM
AMUTO
AD1
DAN202K
SOT-23
AQ33
KSR1103
SOT-23
AU-GND
AQ20
KSR2103
SOT-23
AR150
1K
AD2
DAN202K
SOT-23
AQ22
KSR2103
SOT-23
DMRM
AMUTO
AD6
DAN202K
SOT-23
AQ21
KSR1103
SOT-23
AU-GND
AR151
1K
AD7
DAN202K
SOT-23
AR92
1K
MUTE
TO SCART
OPTION
DMTL
DMTR
AMUTO
TO AUDIO
DMLM
DMRM
MUTE
TO 5.1 CH AUDIO
OPTION

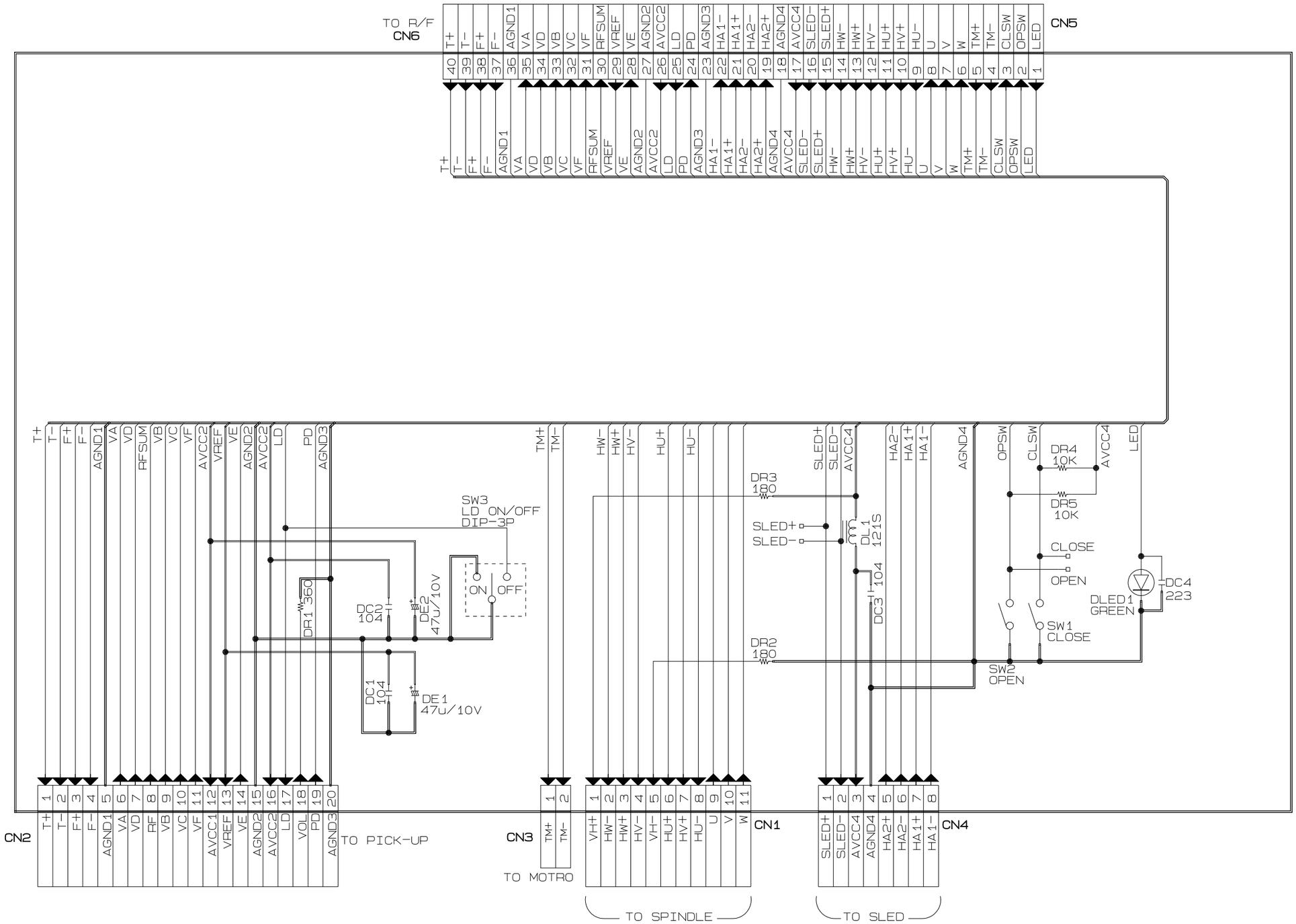
## 13-15 Play & Phone/Power (DVD-909 Only)



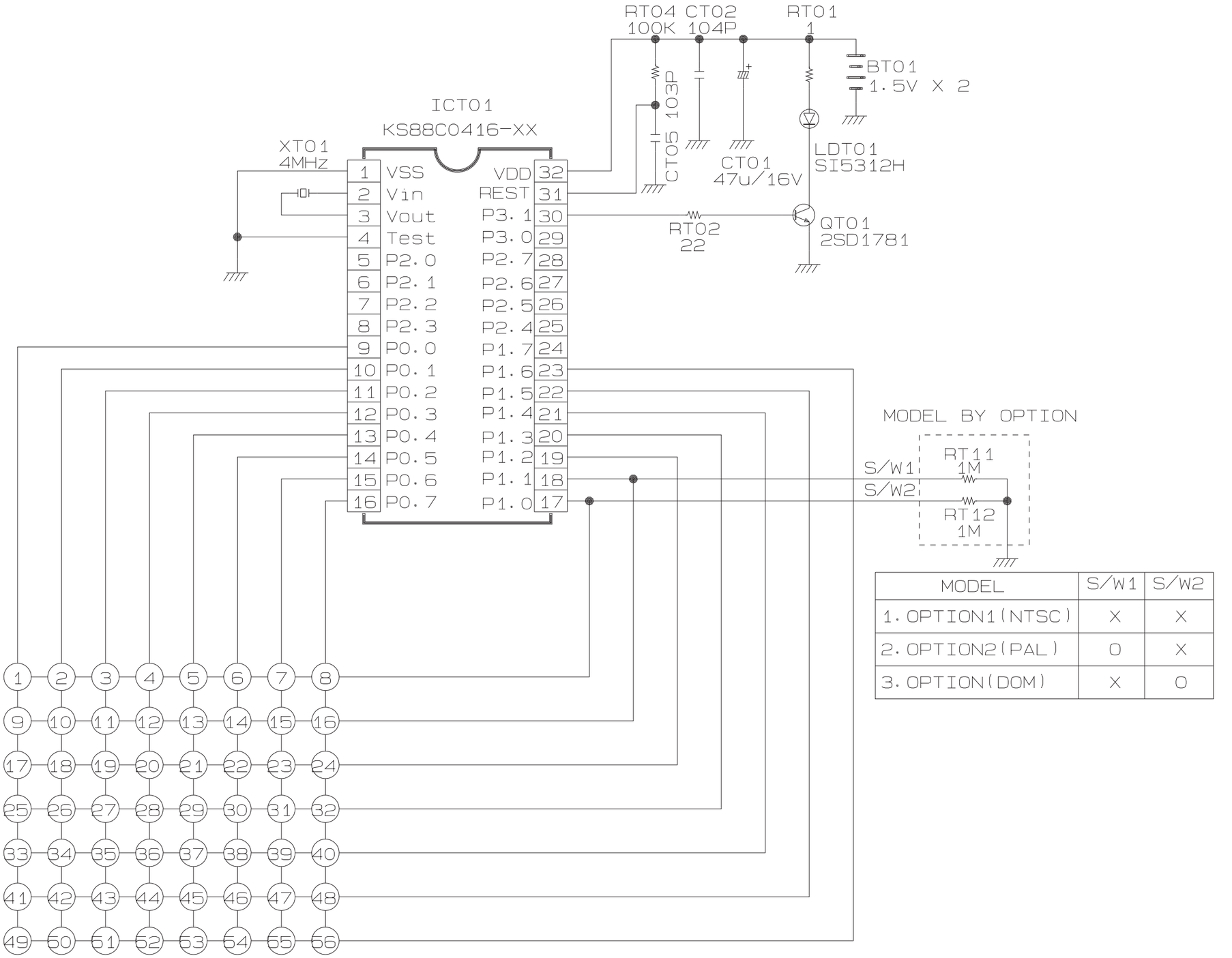

## 13-16 Play & Power (DVD-709 Only)



## 13-17 Deck


TO R/F
CN6
CN5
T+
T-
F+
F-
AGND1
VA
VD
VB
VC
VF
RFSUM
VREF
VE
AGND2
AVCC2
LD
PD
AGND3
HA1-
HA1+
HA2-
HA2+
AGND4
AVCC4
SLED-
SLED+
HW-
HW+
HV-
HU+
HV+
HU-
U
V
W
TM+
TM-
CLSW
OPSW
LED
SW3
LD ON/OFF
DIP-3P
ON
OFF
DR1 360
DC2 104
DE2 47u/10V
DC1 104
DE1 47u/10V
DR3 180
DR2 180
SLED+
SLED-
DL1 121S
DC3 104
DR4 10K
DR5 10K
CLOSE
OPEN
DC4 223
DLED1 GREEN
SW1 CLOSE
SW2 OPEN
CN2
TO PICK-UP
CN3
TO MOTRO
CN1
TO SPINDLE
CN4
TO SLED

## 13-18 Remote Control




| MODEL | S/W1 | S/W2 |
|---|---|---|
| 1. OPTION1(NTSC) | X | X |
| 2. OPTION2(PAL) | O | X |
| 3. OPTION(DOM) | X | O |

# Safety Information

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER(OR BACK).
NO USER-SERVICEABLE PARTS ARE INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol indicates “dangerous voltage” inside the product that presents a risk of electric shock or personal injury.

This symbol indicates important instructions accompanying the product.

CAUTION: DVD PLAYERS USE AN INVISIBLE LASER BEAM WHICH CAN CAUSE HAZARDOUS RADIATION EXPOSURE IF DIRECTED.
BE SURE TO OPERATE PLAYER CORRECTLY AS INSTRUCTED.

## CAUTIONS

Caution: To prevent electric shock, match wide blade of plug to wide slot, fully insert.

To prevent electromagnetic interference with electric appliances, such as radios and televisions, use shielded cables and connectors for connections.

## Caution

Protect the unit from damp and excess heat. Disconnect the power cable from the mains electricity supply when the unit malfunctions.
In particular, you should ensure that the motor driven disc drawer is not prevented from moving properly. If the disc loading system is hindered, the loading mechanism may be damaged. Install the DVD player horizontally, away from a source of heat (fireplace) or equipment creating strong magnetic or electric fields.

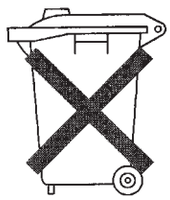
- Do not place anything heavy on it.
- Do not stack components on it.

### CAUTION

The battery used in this product contains the chemicals that are harmful to the environment.

**Do not dispose of batteries in the general household waste.**

It is recommended that the replacement of the battery should be done by a technician.



### WARNING

To reduce the risk of fire or shock hazard, do not expose this DVD player to rain or moisture.

### CAUTION

THIS PRODUCT UTILIZES A LASER. USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE. DO NOT OPEN COVER AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

### Note:

- This unit can be used only where the power supply is AC 110-240V, 50/60Hz. It cannot be used elsewhere.
- This DVD player is designed and manufactured to respond to the Region Management Information. If the Region number of a DVD disc does not correspond to the Region number of this DVD player, this DVD player cannot play the disc.
- This device is protected by U.S. patent numbers 4,631,603 and 4,577,216 and 4,819,098 and other intellectual property rights. The use of Macrovision’s copy protection technology in the device must be authorized by Macrovision and is intended for home and other limited pay-per-view uses only, unless otherwise authorized in writing by Macrovision. Reverse engineering or disassembly is prohibited.

**CLASS 1 LASER PRODUCT**
**LUOKAN 1 LASER LAITE**
**KLASS 1 LASER APPARAT**

# Care & Maintenance

For trouble free operation, follow the instructions shown below.

## Handling Cautions

- Before connecting other components to this player, be sure to turn them all off.
- Do not move the player while a disc is being played, or the disc may be scratched or broken, and the player's internal parts may be damaged.
- Do not put a flower vase filled with water or any small metal objects on the player.
- Be careful not to put your hand into the disc tray.
- Do not place anything other than the disc in the disc tray.
- Exterior interference such as lightning and static electricity can affect normal operation of this player. If this occurs, turn the player off and on again with the POWER button, or disconnect and then reconnect the AC power cord to the AC power outlet. The player will operate normally.
- Be sure to remove the disc and turn off the player after use.
- Disconnect the AC power cord from the AC outlet when you don't intend to use the player for long periods of time.
- Clean the disc by wiping in a straight line from the inside to the outside of the disc.

## Disc Storage

Be careful not to harm the disc because the data on these discs is highly vulnerable to the environment.

- Do not keep under direct sunlight.
- Keep in a cool ventilated area.
- Store vertically.
- Keep in a clean protection jacket.

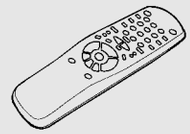
## Maintenance of Cabinet

For safety reasons, be sure to disconnect the AC power cord from the AC outlet.

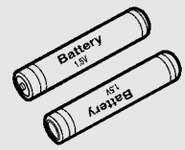
- Do not use benzene, thinner, or other solvents for cleaning.
- Wipe the cabinet with a soft cloth.

## Accessories

**Remote Control**

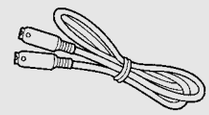


**Batteries for Remote Control (AA Size)**




**Video/Audio Connection Cable**

**S-Video Cable**



**User's Manual**

## Formation of Condensation

Due to sharp changes in temperature and humidity, condensation may form if warm air comes in contact with any cold parts inside the player.

- When condensation forms inside the player, the player may not operate correctly. If this occurs, leave the player at room temperature until the inside of the player becomes dry and operational.
- If condensation forms on a disc, wipe the disc with a soft and dry cloth by moving the cloth from the center hole toward the outer edge.

# TABLE OF CONTENTS

SETUP

Disc Features ····6
Disc Type and Characteristics ····7
Description ····8
• Front Panel (DVD-909) ····8
• Front Panel (DVD-709) ····9
• Rear Panel (DVD-909) ····10
• Rear Panel (DVD-709) ····11
TV System Select ····12
A Tour of the Remote Control ····13
• DVD Function Buttons ····13
• TV Function Buttons ····14

CONNECTIONS

Choosing a Connection (DVD-909) ····15
• Connecting to a TV ····15
• Connecting to an Audio System ····16
Choosing a Connection (DVD-709) ····17
• Connecting to a TV ····17
• Connecting to an Audio System ····18

BASIC FUNCTIONS

Playing a Disc ····19
Searching & Skipping through a Chapter or Track ····21
Using the Display Function ····22
Repeat Play ····23
Using the A-B Repeat Function ····24
Program Playback in a Specific Order ····25

ADVANCED FUNCTIONS

Using the Disc View Function ····26
Selecting Audio ····27
Selecting the Subtitle Language ····28
Selecting the Desired Screen Angle ····29
Using the Bookmark Function ····30
Using the Zoom and 3D Sound Functions ····31

CHANGING SETUP MENU

Using the Setup Menu ····32
Setting Up the Language Features ····33
Setting Up the Parental Level ····35
Setting Up Audio Options ····36
Surround Sound Speaker Setup(DVD-909 only) ··37
Setting Up Display Options ····38

REFERENCE

Controlling a TV with the Remote ····40
Troubleshooting Guide ····41
Specifications (DVD-909) ····42
Specifications (DVD-709) ····43

# Disc Features

The combination of DVD, Video-CD, and CD in one unit provides excellent picture quality and dynamic sound.

### Excellent Sound

The Dolby Digital system developed by Dolby Labs provides crystal clear sound reproduction.

### Screen

Video with MPEG2 compression technology. Both regular and widescreen(16:9) pictures can be viewed.

### Slow Motion

An important scene can be viewed in slow motion.

### Programmed Play

You can program tracks to play in desired order.

### Parental Level Control

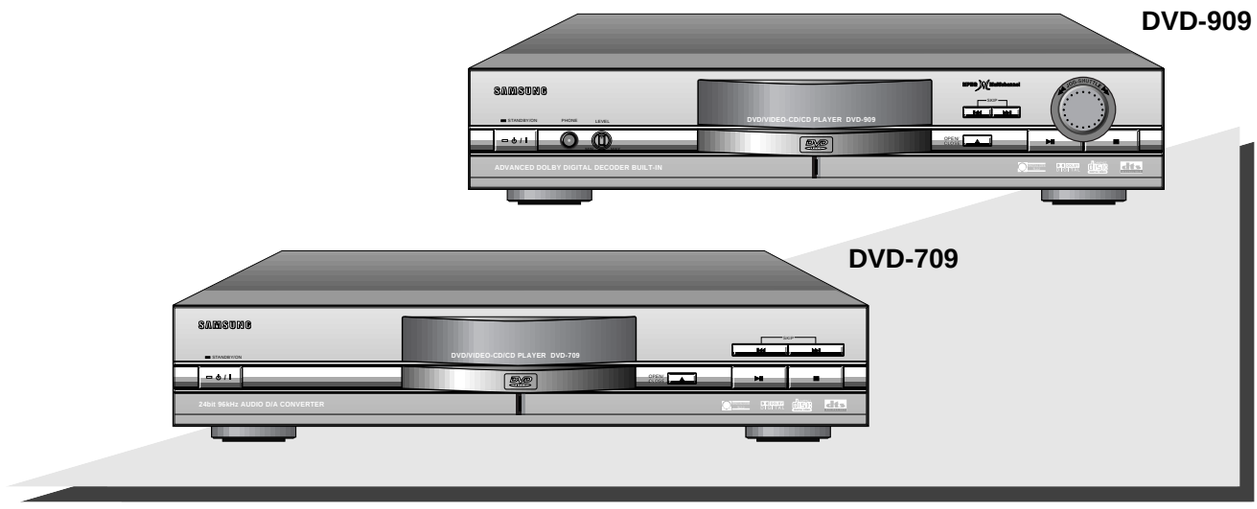
The parental level control allows users to set the level necessary to prohibit children from viewing harmful movies such as those with violence, adult subject matter, etc.

### Various On-Screen Menu Functions

You can select various languages(Audio/Subtitle) and screen angles while enjoying movies.

### Repeat

You can repeat a song or movie simply by pressing the REPEAT button.




**COPY PROTECTION**

- **Many DVD discs are encoded with copy protection. Because of this, you should only connect your DVD player directly to your TV, not to a VCR. Connecting to a VCR results in a distorted picture from copy-protected DVD discs.**
- This product incorporates copyright protection technology that is protected by methods claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

# Disc Type and Characteristics

Your DVD player is capable of playing discs with the following logos.



| Disc Types | Logos | Recording Types | Disc Size | Max. Playing Time | Characteristics |
|---|---|---|---|---|---|
| **DVD** | DVD VIDEO | Audio + Video | 12 cm | Single-sided 240 min. Double-sided 480 min. | • DVD contains excellent sound and video due to Dolby Digital and MPEG2 system.<br>• Various screen and audio functions can be easily selected through the on-screen menu. |
| | | | 8 cm | Single-sided 80 min. Double-sided 160 min. | |
| **VIDEO-CD** | COMPACT disc DIGITAL VIDEO | Audio + Video | 12 cm | 74 min. | • Video with CD sound, VHS quality & MPEG1 compression technology. |
| | | | 8 cm | 20 min. | |
| **AUDIO-CD** | COMPACT disc DIGITAL AUDIO | Audio | 12 cm | 74 min. | • An LP is recorded as an analog signal with more distortion. CD is recorded as a Digital Signal with better audio quality, less distortion and less deterioration of audio quality over time. |
| | | | 8 cm | 20 min. | |

*DO NOT play CD-ROM, CD-I, CD-R and DVD-ROM in this player! (CDGs play audio only, not graphics.)

## Disc Markings

| | PAL | DOLBY DIGITAL | DIGITAL SOUND | STEREO | dts |
|---|---|---|---|---|---|
| • Region Code of DVDs you can play on this unit. | • PAL broadcast system in U.K, France, Germany, etc. | • Dolby Digital disc | • Digital Audio disc | • Stereo disc | • DTS disc |

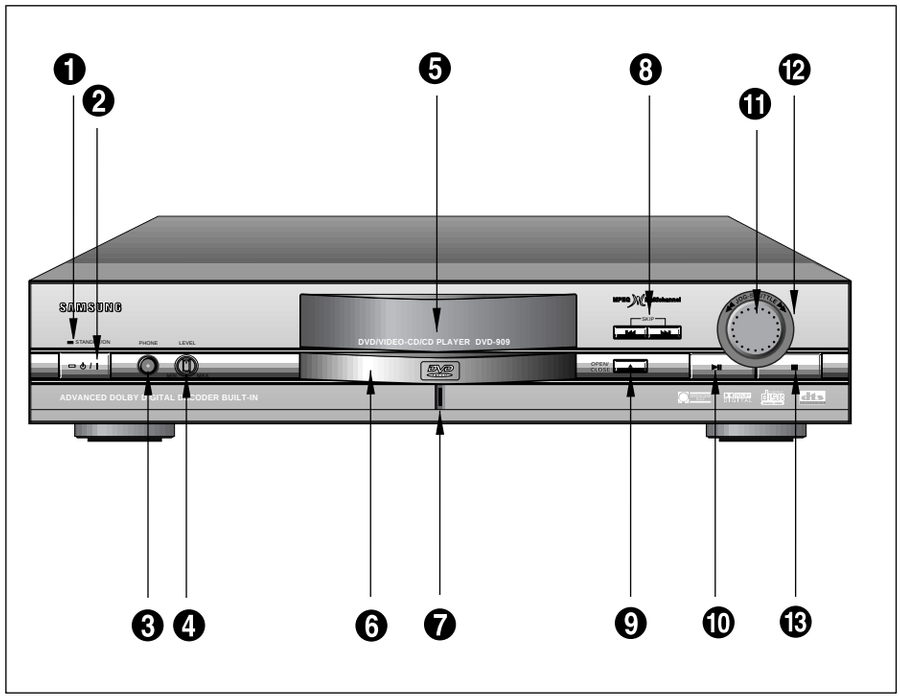
## Playback Region Number

Both the DVD player and the discs are coded by region. These regional codes must match in order for the disc to play. If the codes do not match, the disc will not play.

**The Region Number for this player is described on the rear panel of the player.**

**Your DVD player has a region code printed on the back of the unit and will only play DVDs that are labled with identical region codes.**

# Description-Front Panel DVD-909




## Front Panel Controls

❶ **STANDBY LAMP**
- When the unit is first plugged in, the indicator lights. When power is pressed on, the lamp goes out.

❷ **STANDBY ON/OFF**
- Use to switch your player on and off (standby).

❸ **HEADPHONES JACK**
- You can attach headphones here for private listening.

❹ **HEADPHONES VOLUME**
- Use to adjust headphones volume level.

❺ **DISPLAY** (See below)
- Operation indicators are displayed here.

❻ **DISC TRAY**
- Press OPEN/CLOSE to open and close the disc tray.

❼ **GREEN LAMP**

❽ **SKIP/SEARCH**
- Use to skip or search a scene or music.

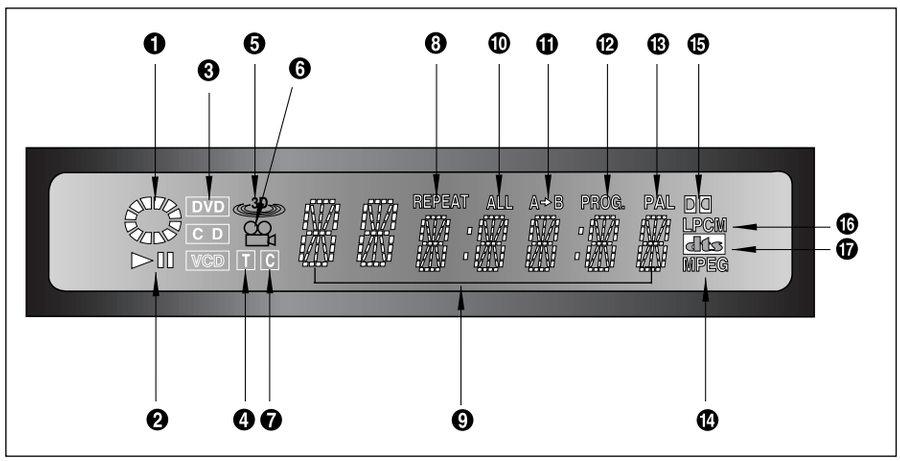
❾ **OPEN/CLOSE**
- Press to open and close the disc tray.

❿ **PLAY/PAUSE**
- Begin or pause disc play.

⓫ **JOG DIAL**
- Operates frame by frame playback. In CD mode, performs track search.

⓬ **SHUTTLE DIAL**
- Performs fast or slow motion playback.

⓭ **STOP**
- Stops disc play.

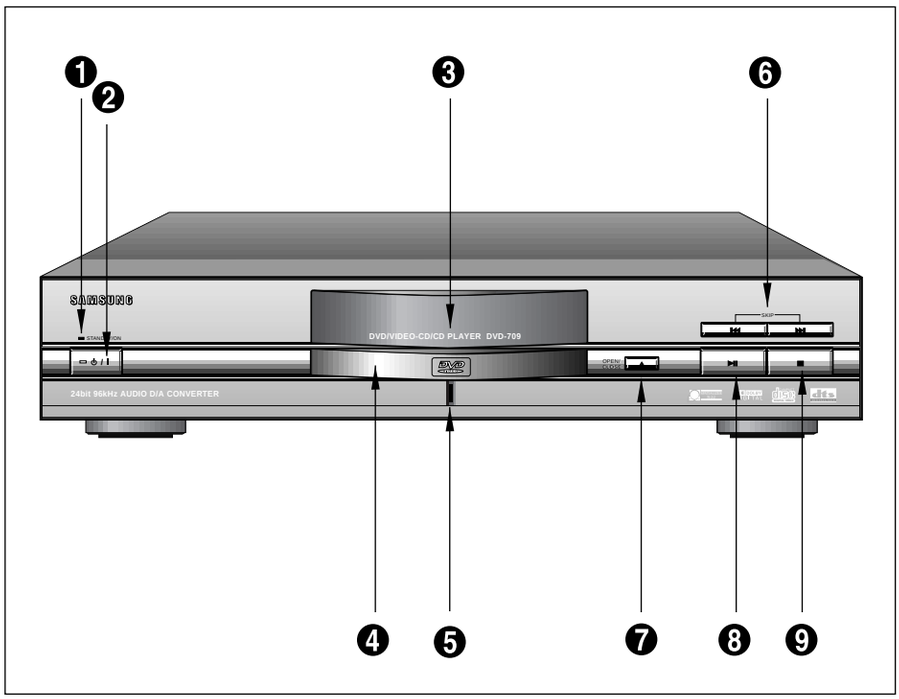



## Front Display

❶ **DISC OPERATION ROTARY INDICATOR**
❷ **OPERATION INDICATOR**
❸ **DISC TYPE INDICATOR**
❹ **TRACK INDICATOR**
❺ **3D SOUND INDICATOR**
❻ **ANGLE INDICATOR**
❼ **CHAPTER INDICATOR**
❽ **REPEAT INDICATOR**
❾ **CHAPTER, TITLE, TRACK & MESSAGE INDICATOR**
❿ **ALL REPEAT INDICATOR**
⓫ **A-B REPEAT INDICATOR**
⓬ **PROGRAM PLAY INDICATOR**
⓭ **PAL INDICATOR**
⓮ **MPEG INDICATOR**
⓯ **DOLBY DIGITAL INDICATOR**
⓰ **LINEAR PCM INDICATOR**
⓱ **DTS INDICATOR**

# Description-Front Panel DVD-709






## Front Panel Controls

❶ **STANDBY LAMP**
- When the unit is first plugged in, the indicator lights. When power is pressed on, the lamp goes out.

❷ **STANDBY ON/OFF**
- Use to switch your player on and off (standby).

❸ **DISPLAY** (See below)
- Operation indicators are displayed here.

❹ **DISC TRAY**
- Press OPEN/CLOSE to open and close the disc tray.

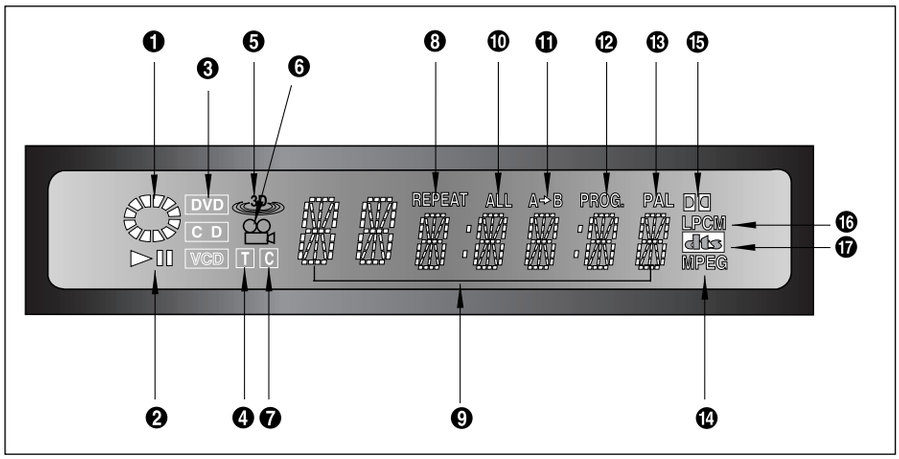
❺ **GREEN LAMP**

❻ **SKIP/SEARCH**
- Use to skip or search a scene or music.

❼ **OPEN/CLOSE**
- Press to open and close the disc tray.

❽ **PLAY/PAUSE**
- Begin or pause disc play.

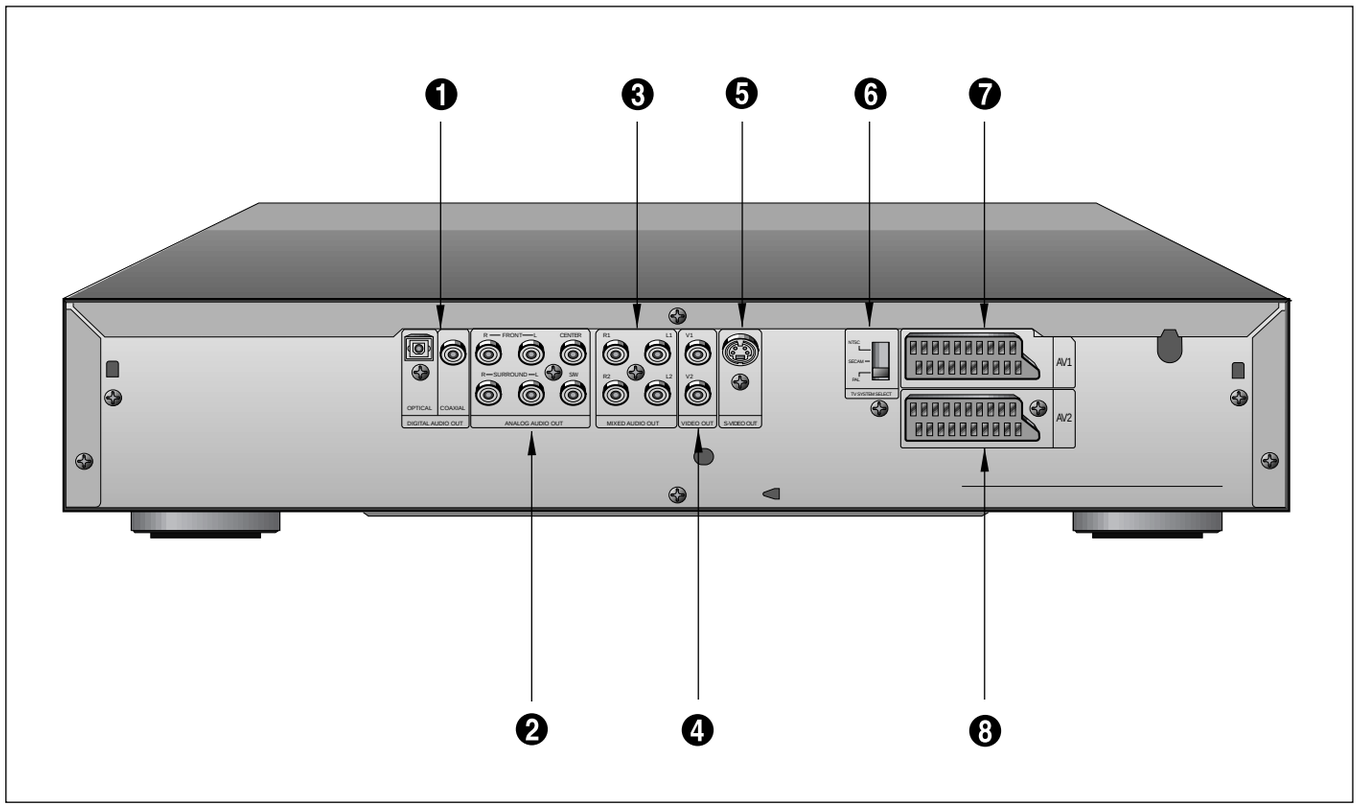
❾ **STOP**
- Stops disc play.




## Front Display

❶ **DISC OPERATION ROTARY INDICATOR**
❷ **OPERATION INDICATOR**
❸ **DISC TYPE INDICATOR**
❹ **TRACK INDICATOR**
❺ **3D SOUND INDICATOR**
❻ **ANGLE INDICATOR**
❼ **CHAPTER INDICATOR**
❽ **REPEAT INDICATOR**
❾ **CHAPTER, TITLE, TRACK & MESSAGE INDICATOR**
❿ **ALL REPEAT INDICATOR**
⓫ **A-B REPEAT INDICATOR**
⓬ **PROGRAM PLAY INDICATOR**
⓭ **PAL INDICATOR**
⓮ **MPEG INDICATOR**
⓯ **DOLBY DIGITAL INDICATOR**
⓰ **LINEAR PCM INDICATOR**
⓱ **DTS INDICATOR**

# Description-Rear Panel DVD-909




## Rear Panel

❶ DIGITAL AUDIO OUT JACK
- Use either an optical or coaxial digital cable to connect to a compatible Dolby Digital receiver. Use to connect to an A/V Amplifier that contains the Dolby Digital decoder or DTS decoder.

❷ 5.1CH ANALOG AUDIO OUT JACKS
- Connect to an amplifier with 5.1ch analog input jacks.

❸ MIXED AUDIO OUT JACKS
- Connect to the Audio input jacks of your television, audio/video receiver, or VCR.

❹ VIDEO OUT JACKS
- Use a video cable to connect one of these jacks to the Video input on your television.

❺ S-VIDEO OUT JACK
- Use the S-Video cable to connect this jack to the S-Video jack on your television for a higher quality picture.

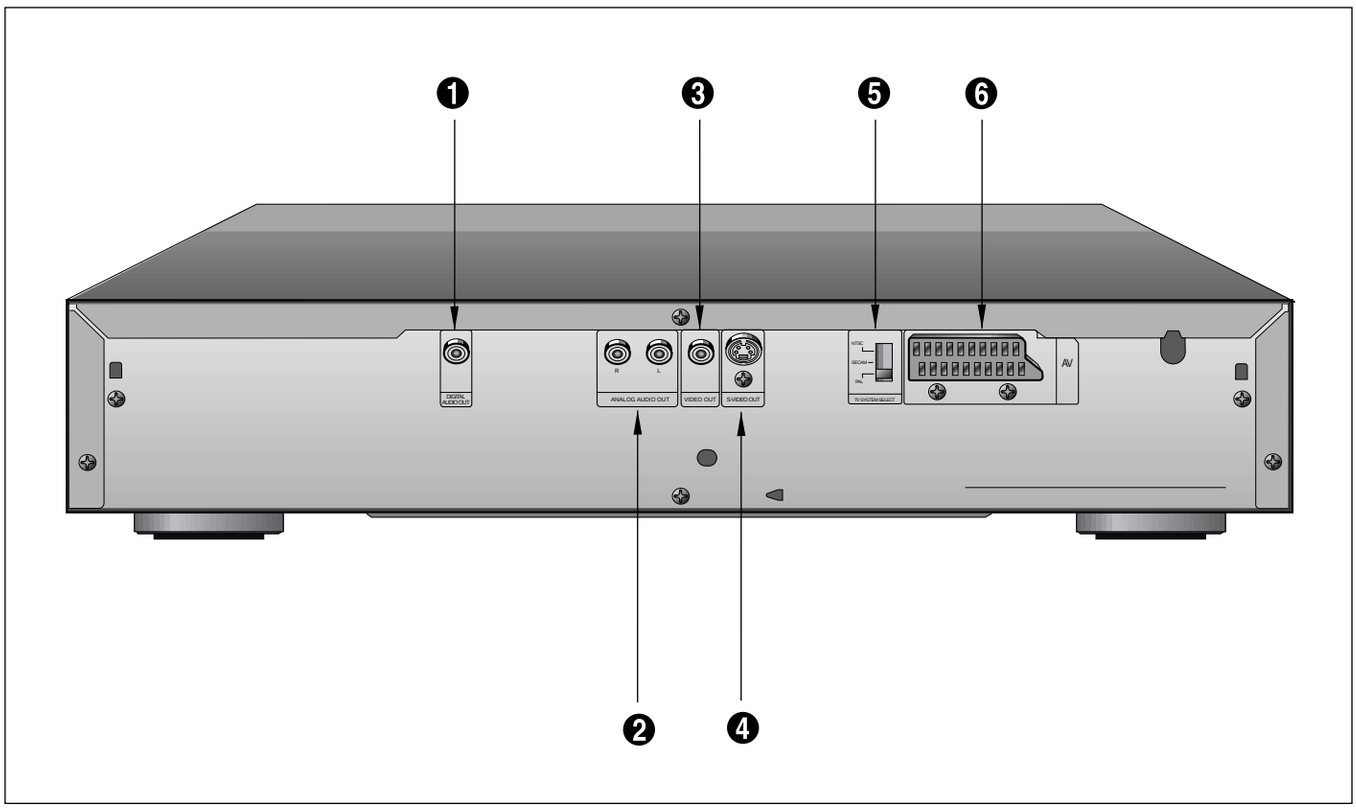
❻ TV SYSTEM SELECT SWITCH
- Use the switch to set TV system.

❼ SCART AV1 JACK
- Connect to a TV with scart input jack.

❽ SCART AV2 JACK
- Connect to a video recorder or other equipment.

# Description-Rear Panel DVD-709






## Rear Panel

❶ DIGITAL AUDIO OUT JACK
- Use a coaxial digital cable to connect to an A/V Amplifier that contains a Dolby Digital decoder or DTS decoder.

❷ ANALOG AUDIO OUT JACKS
- Connect to the Audio input jacks of your television, audio/video receiver, or VCR.

❸ VIDEO OUT JACK
- Use a video cable to connect this jack to the Video input on your television.

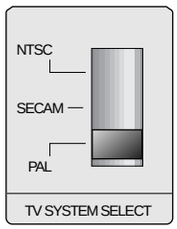
❹ S-VIDEO OUT JACK
- Use the S-Video cable to connect this jack to the S-Video jack on your television for a higher quality picture.

❺ TV SYSTEM SELECT SWITCH
- Use the switch to set TV system.

❻ SCART AV JACK
- Connect to a TV with scart input jack.

# TV system select

You can enjoy NTSC or PAL encoded discs by using your TV SYSTEM SELECT switch to choose the appropriate system.

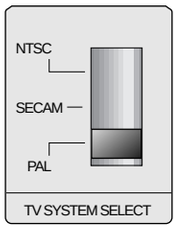



* This switch is located in the rear of DVD player.

- Only when you playback PAL-encoded DVD with NTSC-TV. The player can not playback the disc.
- When the selected TV-SYSTEM doesn't coincide with the system of your TV, normal color picture may not be displayed.
- Select the TV-SYSTEM when in stop mode.
- When you playback NTSC-encoded disc with PAL-TV, some discs may produce black bands at the top and bottom of the screen.

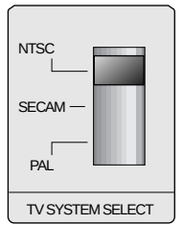
### If you use PAL-TV

You should set TV SYSTEM to 'PAL'.



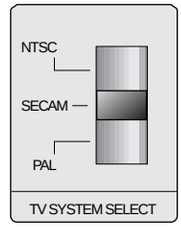

### If you use NTSC-TV

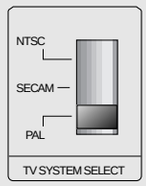
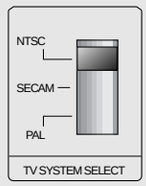
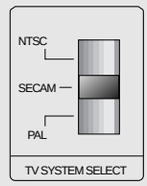
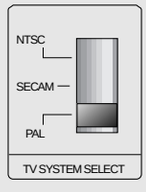
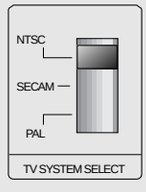
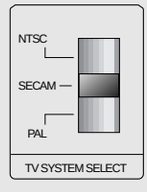
You should set TV SYSTEM to 'NTSC'.




### If you use SECAM-TV

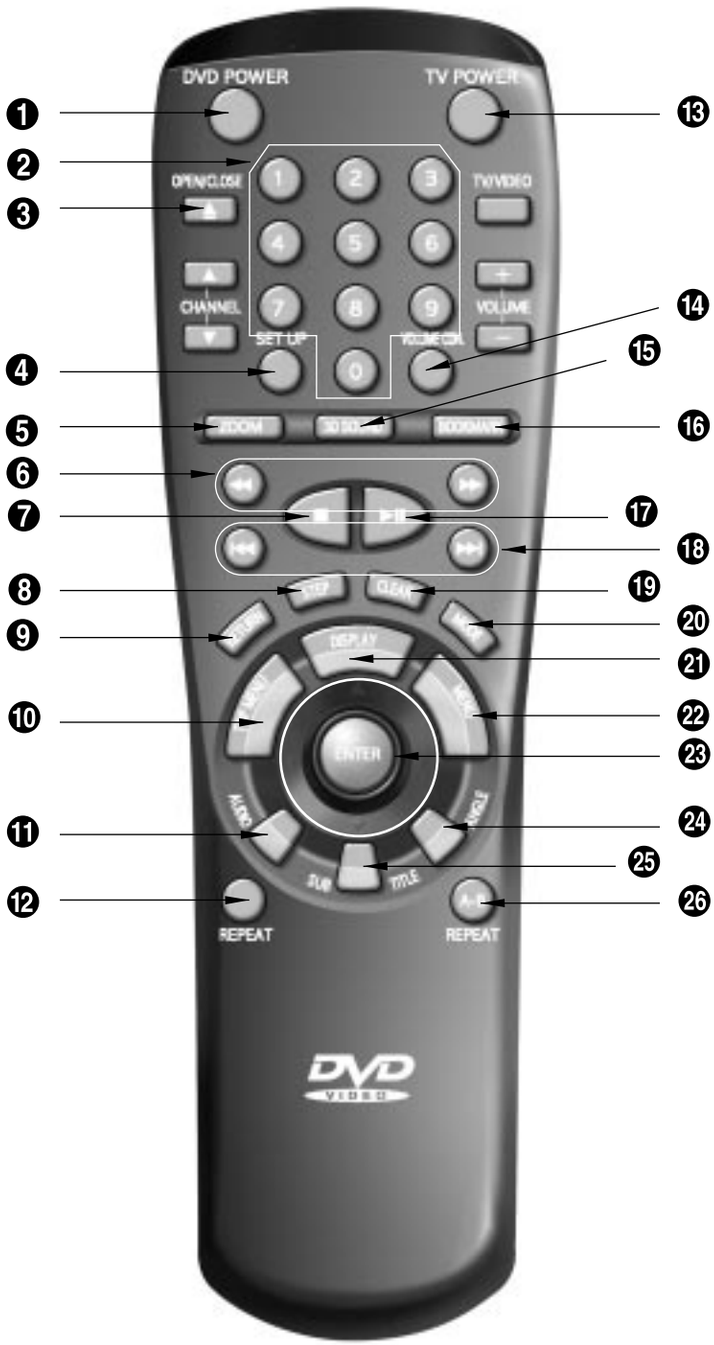
You should set TV SYSTEM to 'SECAM'.




| DISC \ TV | PAL | NTSC | SECAM |
|---|---|---|---|
| **NTSC-encoded (DVD/VIDEO-CD)** |  |  |  |
| **PAL-encoded (DVD/VIDEO-CD)** |  |  • VIDEO-CD only. |  |

# A Tour of the Remote Control






## DVD Function Buttons

❶ **DVD POWER Button**

❷ **NUMBER Buttons**

❸ **OPEN/CLOSE Button**

❹ **SETUP Button**
- Brings up the DVD player's Setup menu.

❺ **ZOOM Button**

❻ **SEARCH Buttons**
- Allows you to search forward/backward through a disc.

❼ **STOP Button**

❽ **STEP Button**
- Advances playback one frame at a time.

❾ **RETURN Button**
- Returns to a previous menu.

❿ **TOP MENU Button**
- Accesses a music or video display directly.

⓫ **AUDIO Button**
- Use this button to access various audio functions on a disc.

⓬ **REPEAT Button**
- Allows you to repeat play a title, chapter, track, or disc.

⓭ **TV POWER Button**
- Use to set the remote to control a compatible TV.

⓮ **VOLUME CON. Button**
- To control the master volume of the player.

⓯ **3D SOUND Button**

⓰ **BOOKMARK Button**

⓱ **PLAY/PAUSE Button**
- Begin/Pause disc play.

⓲ **SKIP Buttons**
- Use to skip the title, chapter, or track.

⓳ **CLEAR Button**
- Use to remove menus or status displays from the screen.

⓴ **MODE Button**
- Allows you to program a specific order.

㉑ **DISPLAY Button**
- Displays the current disc mode.

㉒ **MENU Button**
- Brings up the Disc menu.

㉓ **ENTER/DIRECTION Button (UP/DOWN or LEFT/RIGHT Button)**
- This button functions as a toggle switch.

㉔ **ANGLE Button**
- Use to access various camera angles on a DVD.

㉕ **SUBTITLE Button**

㉖ **A-B REPEAT Button**
- Use to mark a segment to repeat between A and B.

# A Tour of the Remote Control (Cont d)

## TV Function Buttons

❶ **TV POWER Button**
❷ **TV/VIDEO Selection Button**
❸ **CHANNEL UP/DOWN Buttons**
❹ **VOLUME UP/DOWN Buttons**

## Install Batteries in the Remote

1. Open the battery cover on the back of the remote.
2. Insert two AA batteries. Make sure that the polarities (+ and -) are aligned correctly.
3. Replace the battery cover.

## If remote doesn't operate properly:

- Check the polarity + - of the batteries (Dry-Cell)
- Check if the batteries are drained.
- Check if remote sensor is blocked by obstacles.
- Check if there is any fluorescent lighting nearby.

## To Connect Headphones (not included) (DVD-909 only)

Turn the headphone volume down to the minimum setting before connecting.
Adjust to your desired volume after connection.

**NOTE** This ⊘ icon indicates an invalid button press.

# Choosing a Connection DVD-909

The following diagrams show common connection examples that can be used for connecting your DVD player to a TV or other equipment.

## Before Connecting the DVD Player

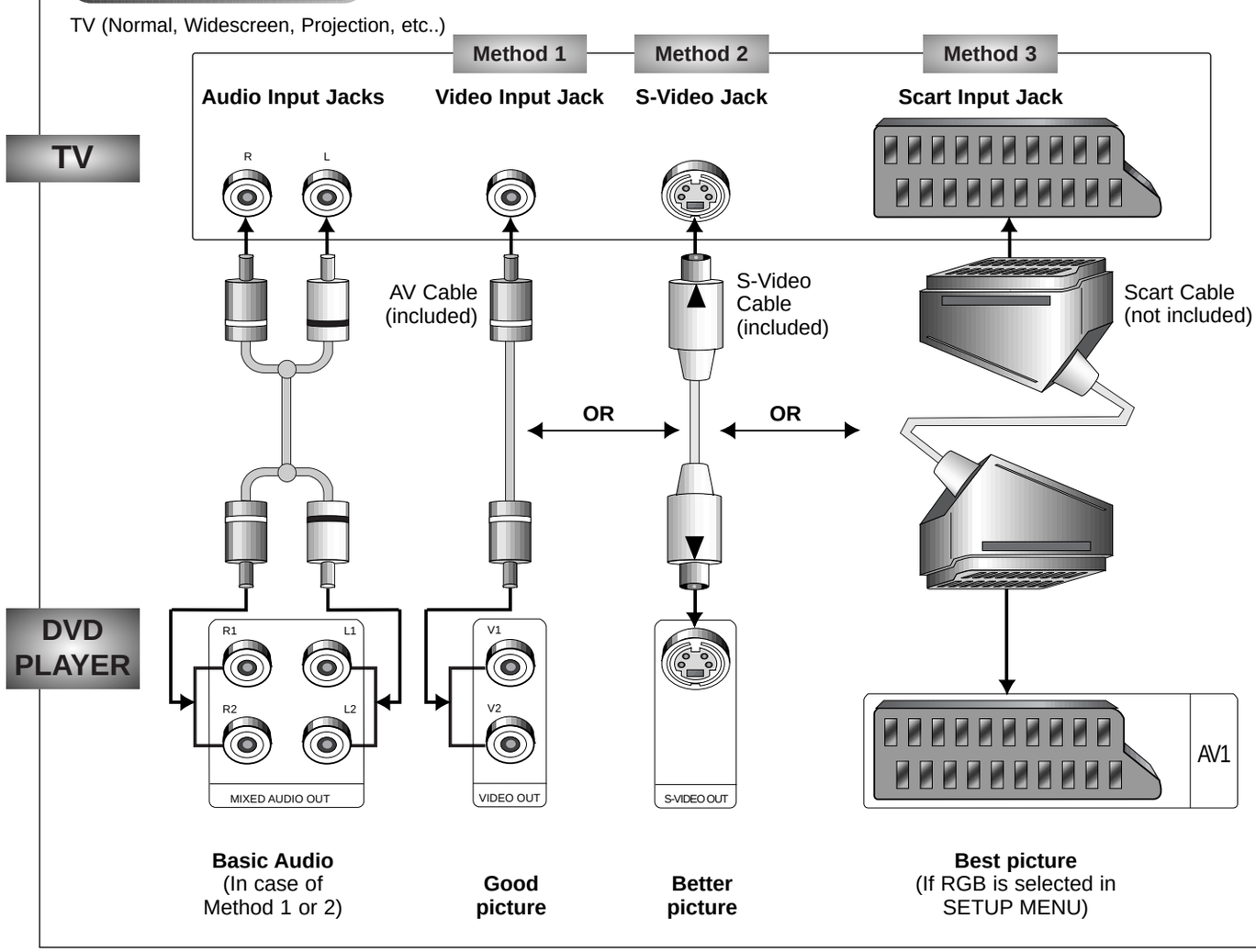
- Always turn off the DVD player, TV, and other components before you connect or disconnect any cables.
- Refer to owner's manual of the components you are connecting for more information on those particular components.

## Connecting to a TV (For Video)

- **Method 1**
  DVD Player + TV with Video Input Jack
- **Method 2**
  DVD Player + TV with S-Video Input Jack
- **Method 3**
  DVD Player + TV with Scart Input Jack (Audio & Video)

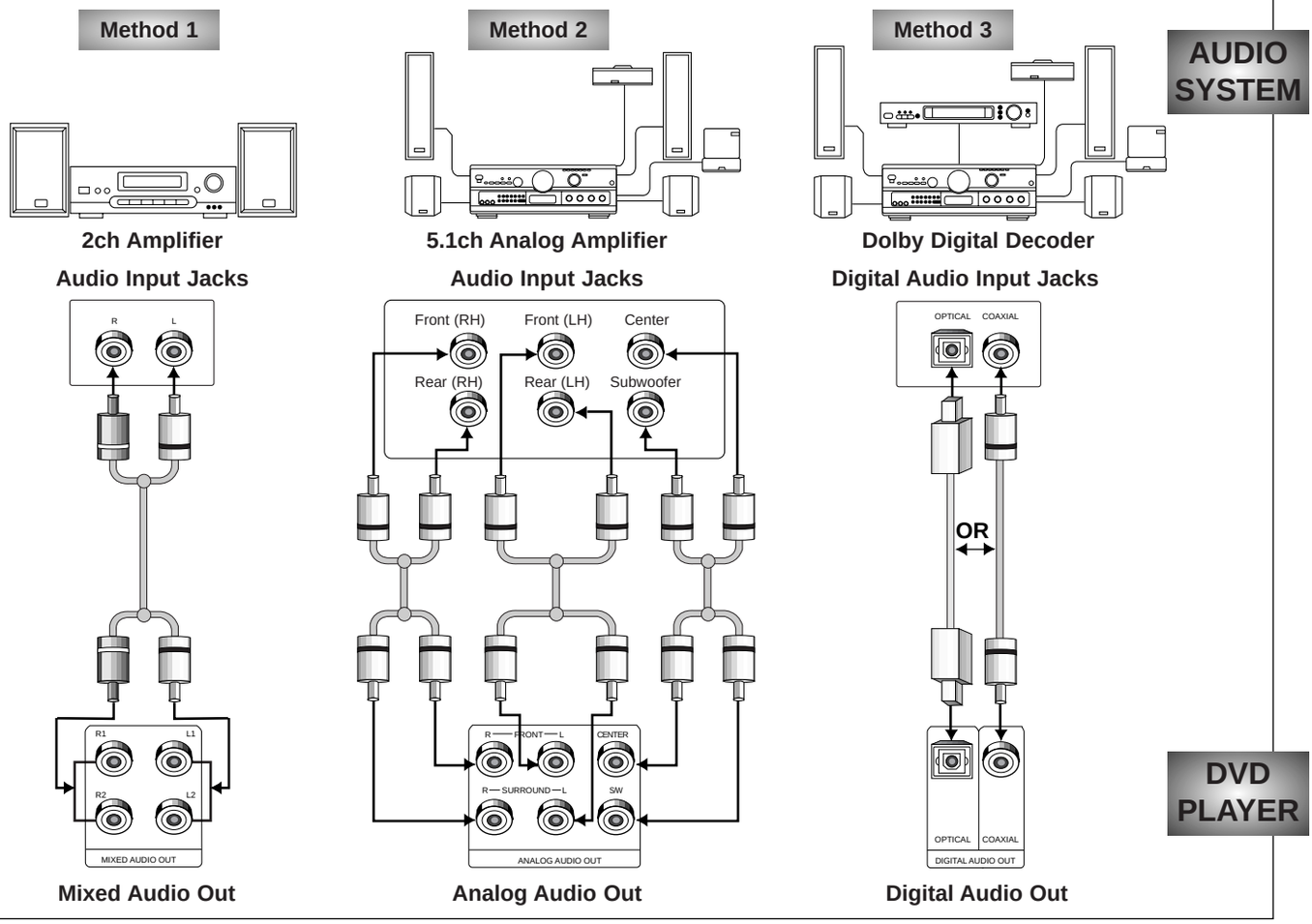


## Connecting to a TV



# Choosing a Connection (Cont d)

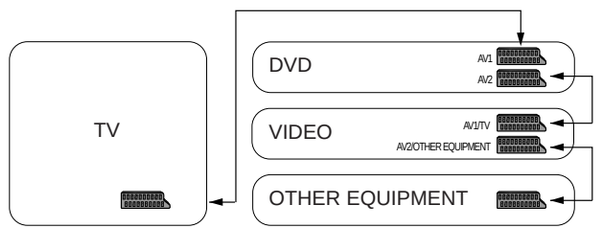
## Connecting to an Audio System




### Connecting to an Audio System

- **Method 1**
  DVD Player + 2ch Stereo Amplifier or Dolby Pro Logic Decoder
- **Method 2**
  DVD Player + Amplifier with 5.1ch Analog Input Jacks
- **Method 3**
  DVD Player + Amplifier with Dolby Digital Decoder/DTS Decoder

### An Example of Connecting DVD with Other Equipment




**NOTE** You can build up the optimum AV system by following the connection examples on this page and the previous page.

# Choosing a Connection DVD-709

The following diagrams show common connection examples that can be used for connecting your DVD player to a TV or other equipment.

## Before Connecting the DVD Player

- Always turn off the DVD player, TV, and other components before you connect or disconnect any cables.
- Refer to owner's manual of the additional components you are connecting for more information for those particular components.

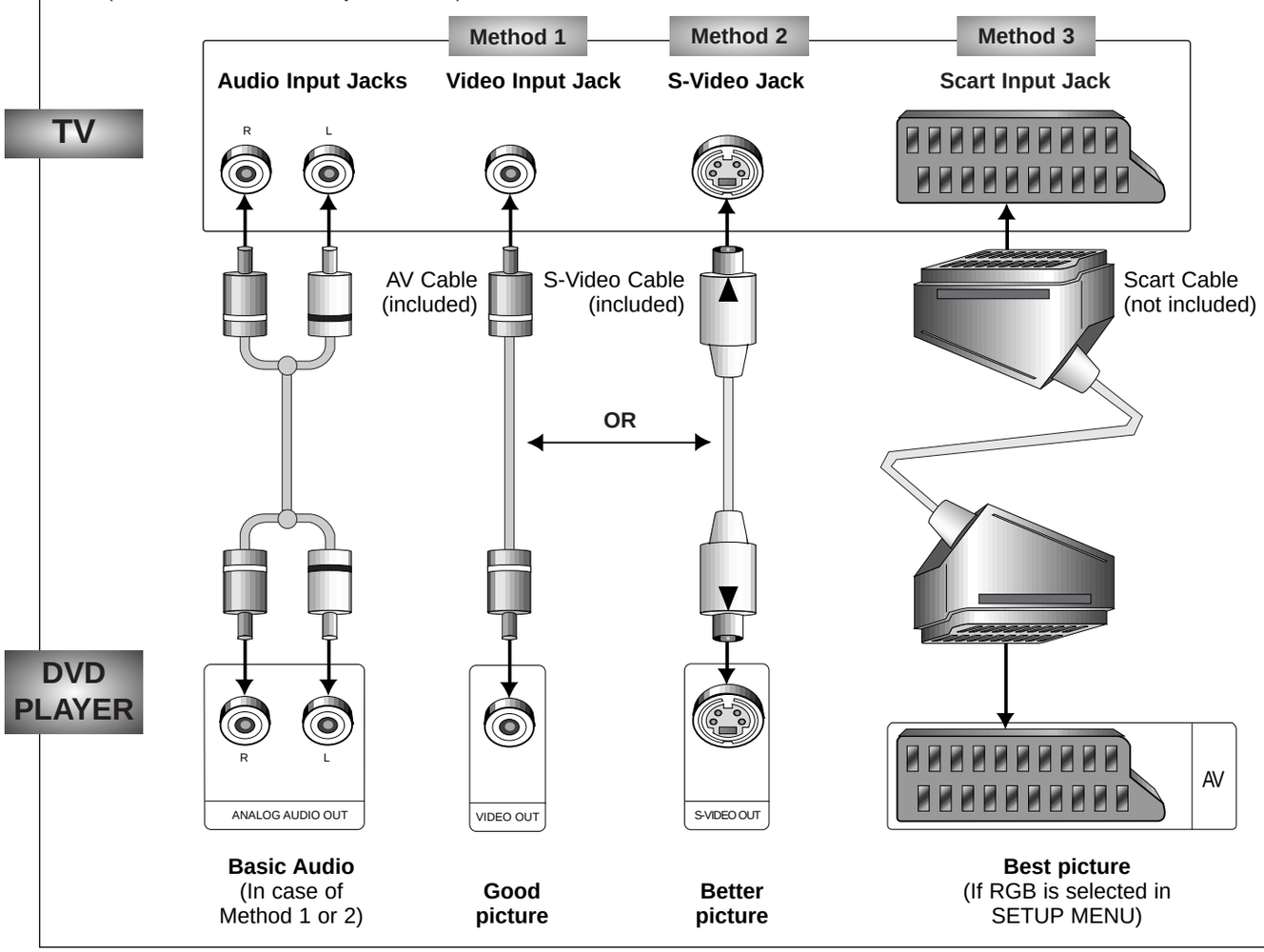
## Connecting to a TV (For Video)

- **Method 1**
  DVD Player + TV with Video Input Jack
- **Method 2**
  DVD Player + TV with S-Video Input Jack
- **Method 3**
  DVD Player + TV with Scart Input Jack (Audio & Video)



## Connecting to a TV

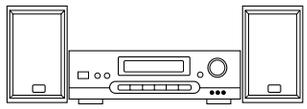
TV (Normal, Widescreen, Projection, etc..)



# Choosing a Connection (Cont d)

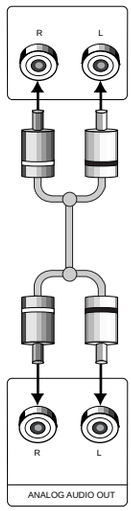
## Connecting to an Audio System

**Method 1**



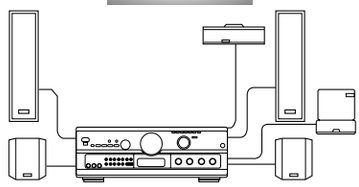
**2ch Amplifier**

**Audio Input Jacks**



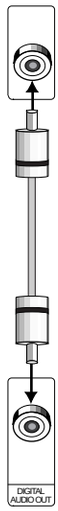

**Analog Audio Out**

**Method 2**



**Dolby Digital Decoder**

**Digital Audio Input Jack**




**Digital Audio Out**

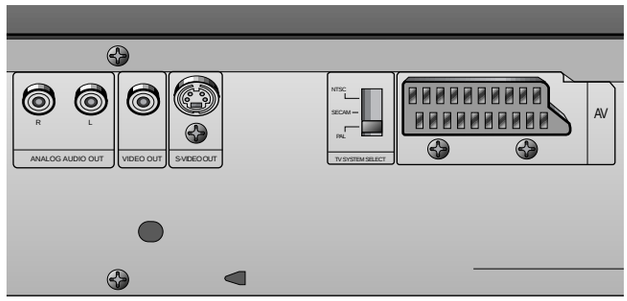
**AUDIO SYSTEM**

**DVD PLAYER**

### Connecting to an Audio System

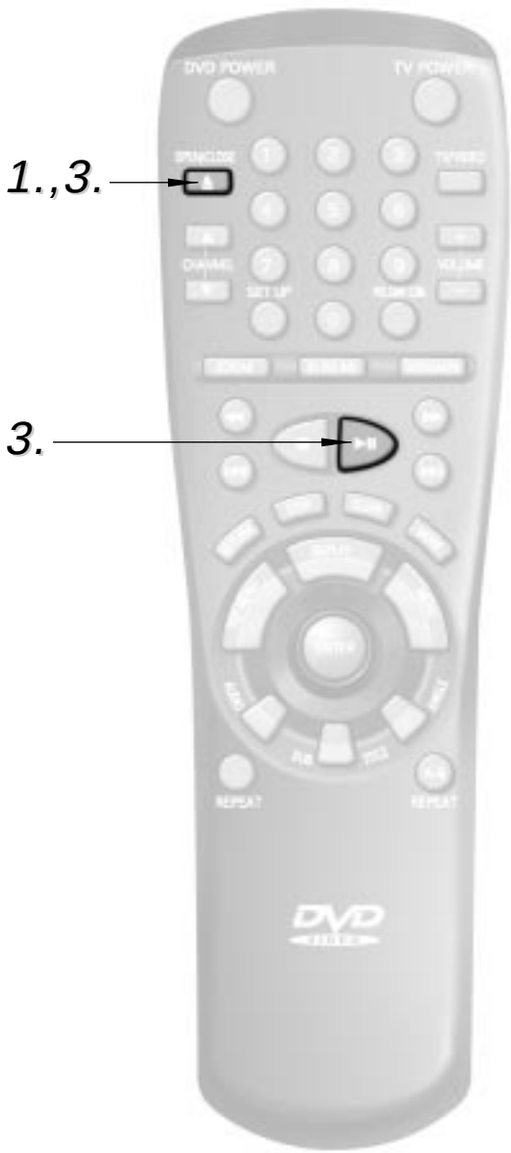
- **Method 1**
  DVD Player + 2ch Stereo Amplifier or Dolby Pro Logic Decoder
- **Method 2**
  DVD Player + Amplifier with Dolby Digital Decoder/DTS Decoder

### Rear Panel




**NOTE** You can build up the optimum AV system by following the connection examples on this page and the previous page.

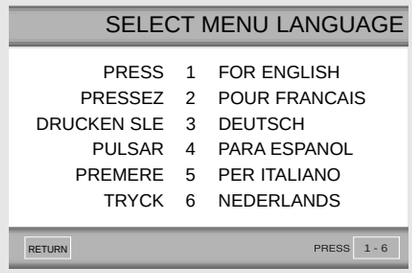
# Playing a Disc




## Before Playback

- Turn on a TV and press the TV/VIDEO button to select video mode.
- Turn on your Audio System to select AUX, CD or DVD.
- Refer to your AUDIO Owner's Manual.

After plugging in the player, the first time you press the DVD POWER button, this screen comes up :




If you want to select the language, press a NUMBER button. (This screen will only appear the very first time you plug in the player.)

## Playback

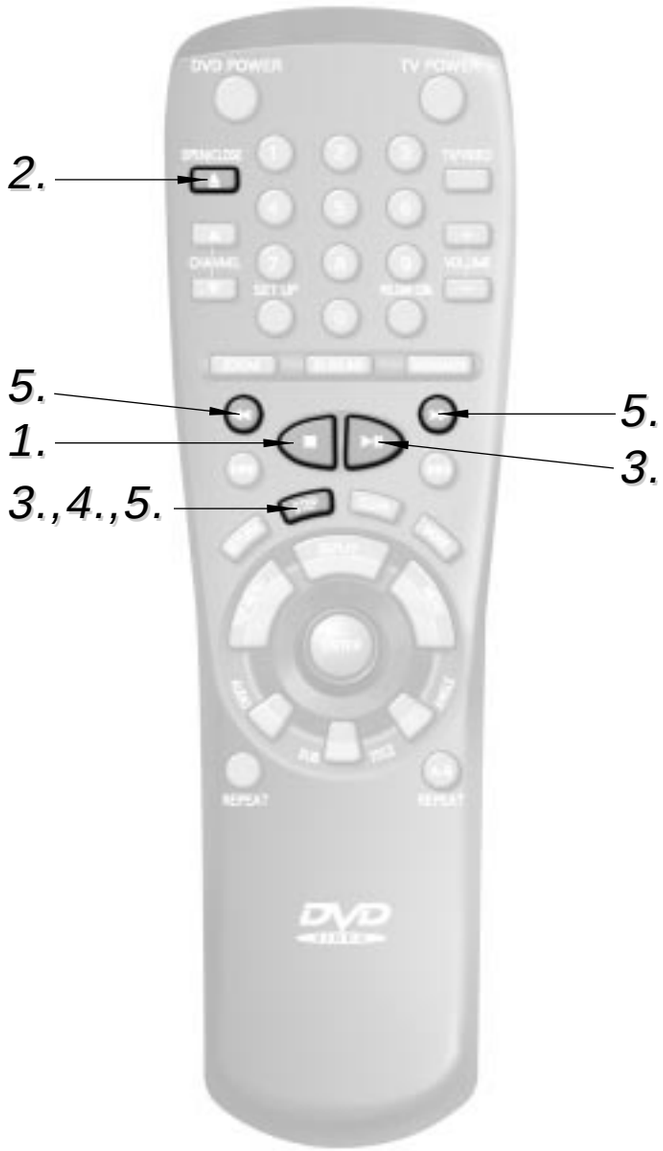
1. Press the OPEN/CLOSE button.
   The STANDBY indicator light goes out and the tray opens.

2. Place a disc gently into the tray with the disc's label facing up.

3. Press the PLAY/PAUSE button or OPEN/CLOSE button to close the disc tray.

# Playing a Disc (Cont d)

Several options are available during DVD playback.




**1.** Stopping Playback

Press the STOP button in playback.

**2.** Removing Disc

Press the OPEN/CLOSE button.

**3.** Pausing Playback

Press the PLAY/PAUSE or STEP button on the remote during playback.

- Screen stops, no sound.
- To resume again, press PLAY/PAUSE button once again.

**4.** Step Motion Playback (Except CD)

Press the STEP button on the remote or turn JOG dial (DVD-909 only) on the front of the DVD player during playback.

- Each time the button is pressed, a new frame will appear.
- No sound is heard during STEP mode.
- Press PLAY/PAUSE to resume normal playback. (You can only perform step motion playback in the forward direction.)

**5.** Slow Motion Playback (Except CD)

Press the FWD or REV SEARCH button on the remote or turn the SHUTTLE dial (DVD-909 only) on the front of the DVD player during PAUSE or STEP mode.

- By pressing or shuttling, you can select slow motion playback for 1/2, 1/4 or 1/8 of normal speed.
- No sound is heard during slow mode.
- Press PLAY/PAUSE to resume normal playback.
- When playing a VCD, the reverse slow motion playback will not work.

**RESUME function**

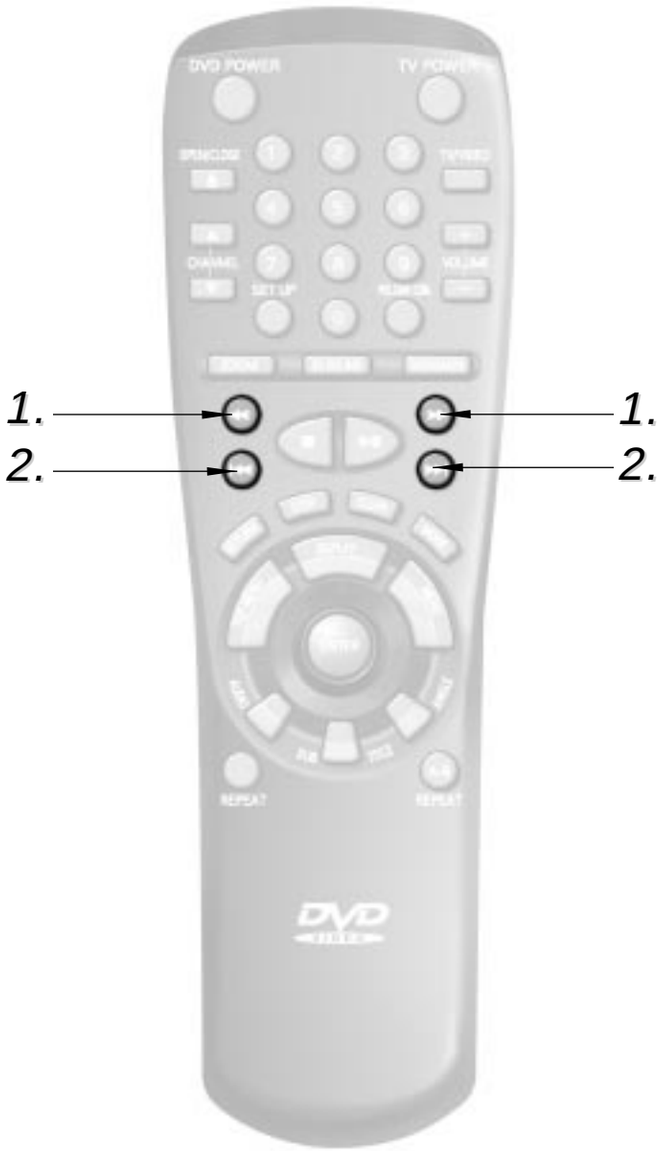
When you stop disc play, the player remembers where you stopped, so when you press PLAY again, it will pick up where you left off (unless the disc is removed, the STOP button is pressed twice or the player is unplugged.).

**NOTE**

- If the player is left for 5 minutes in pause mode, it will stop.
- The power is automatically turned off after approximately 30 minutes have elapsed in the stop mode (auto power-off feature).
- If the player is left in the stop mode for more than one minute without any user interaction, a screensaver will be activated, and the TV screen will fade in and fade out repeatedly. Press PLAY button to resume normal play.

# Searching & Skipping through a Chapter or Track

During playback, you can search quickly through a chapter or track or use the skip function to jump to the next selection.




## Searching through a Chapter or Track

**1.** Press the FWD or REV SEARCH button on the remote or turn the SHUTTLE dial (DVD-909 only) on the front of the DVD player during PLAY mode.

- Press the REVERSE or FORWARD SEARCH button on the remote and press again to search at a faster speed(2X/8X/16X/32X/normal speed, in order) on DVD.
- Press the REVERSE or FORWARD SEARCH button on the remote and press again to search at a faster speed(4X/8X/normal speed in order) on VCD and CD.
- To return to normal speed playback, press the PLAY/PAUSE button.

## Skipping Tracks

**2.** Press the NEXT SKIP or BACK SKIP button during playback.

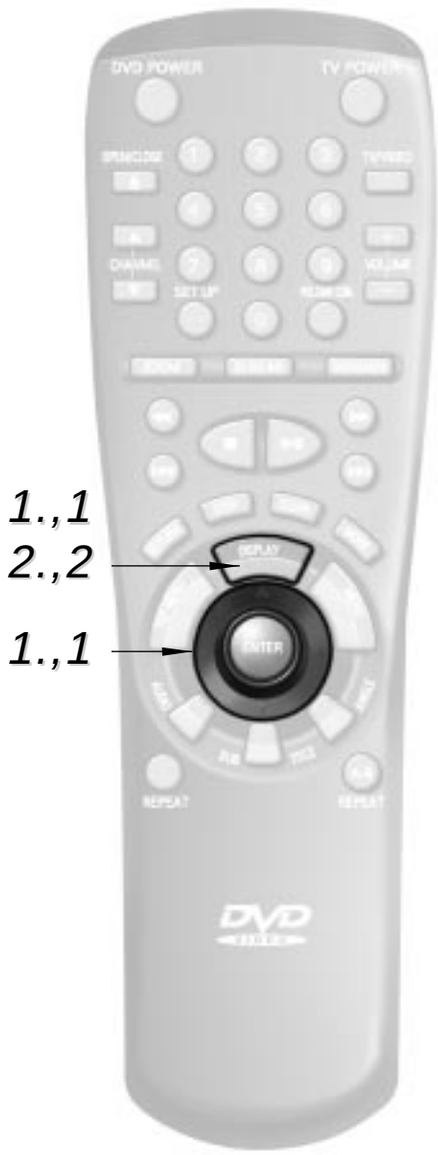
- When playing a DVD, if you press the NEXT SKIP button, it moves to next chapter. If you press the BACK SKIP button, it moves to the beginning of the chapter. One more press makes it move to the beginning of the previous chapter.
- When playing a VCD 2.0 in MENU OFF mode, a VCD 1.1 or a CD,
  if you press NEXT SKIP button, it moves to next track. If you press BACK SKIP button, it moves to the the beginning of the track. One more press makes it move to the beginning of the previous track.
- If a track exceeds 15 minutes when playing a VCD and you press NEXT SKIP button, it moves forward 5 minutes. If you press BACK SKIP button, it moves backward 5 minutes.
- When playing a VCD 2.0 in the MENU MODE or Track View function,
  if you press NEXT SKIP button, it moves to the next MENU or the next Track View display. If you press BACK SKIP button, it moves to the previous MENU or the previous Track View display. (Refer to page 26.)

**NOTE**

- While in search (8X/16X/32X) on DVD or high-speed playback on VCD, no sound will be heard.
- Though 2X SCAN is ON in SETUP MENU, no sound will be heard on discs which are recorded with LPCM, DTS or MPEG-2 AUDIO.
- Depending on the disc, audio may or may not be heard when a disc is in 2X playback mode.

# Using the Display Function

If you want to display the title, chapter, time, audio and subtitle information on a DVD, press the DISPLAY button. If you want to display the track and time information on a VCD or CD, press the DISPLAY button.




**NOTE**

What is a Chapter?
Each Title on a DVD can be divided into chapters (similar to tracks on an audio CD).

What is a Title?
A DVD may contain several different titles. : for example, if a disc contains four different movies, each might be considered a title.

## When Playing a DVD

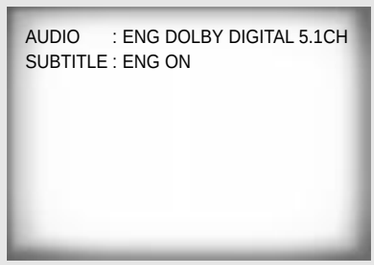
**1.** During playback, press the DISPLAY button on the remote.

- Current title, chapter number and elapsed time will be displayed.

- Use the LEFT/RIGHT button to select a title or a chapter number. Use the UP/DOWN button or Number buttons to enter a different title or chapter number, then press the ENTER button.
- To enter the time from which you want to start, use the LEFT/RIGHT button to select, then use the Number buttons to enter the time. Then press the ENTER button.

**2.** Press the DISPLAY button on the remote twice.

- Current audio and subtitle information will appear.




- To make the screen disappear, press the DISPLAY button again.

## When Playing a CD/VCD

**1** During playback, press the DISPLAY button on the remote.

- Current track number and elapsed time will be displayed.

- Use the LEFT/RIGHT button to select a track. Use the UP/DOWN button or Number buttons to enter a different track number, then press the ENTER button.
- To enter the time from which you want to start, use the LEFT/RIGHT button to select, then use the Number buttons to enter the time. Then press the ENTER button.

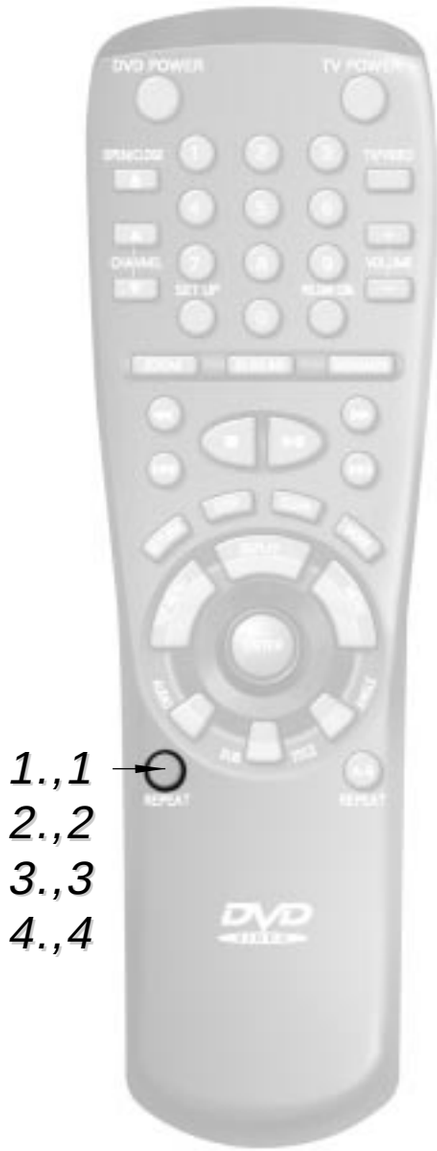
**2** Press the DISPLAY button on the remote twice.

- Elapsed time and remain time will appear.

- To make the screen disappear, press the DISPLAY button again.

# Repeat Play

Repeat play allows you to repeat a track, title, or the entire disc.




## When playing a DVD

1. Press the REPEAT button once to display the current status.
2. Press the REPEAT button twice to repeat the chapter currently playing.

REPEAT : CHAPTER

3. Press the REPEAT button a third time to repeat the title currently playing.

REPEAT : TITLE

4. Press the REPEAT button again to turn off the repeat feature.

REPEAT : OFF

## When playing a CD/VCD

1 Press the REPEAT button once to display the current status.

2 Press the REPEAT button twice to repeat the current track.

REPEAT : TRACK

3 Press the REPEAT button a third time to repeat all tracks.

REPEAT : ALL

4 Press the REPEAT button again to turn off the repeat feature.

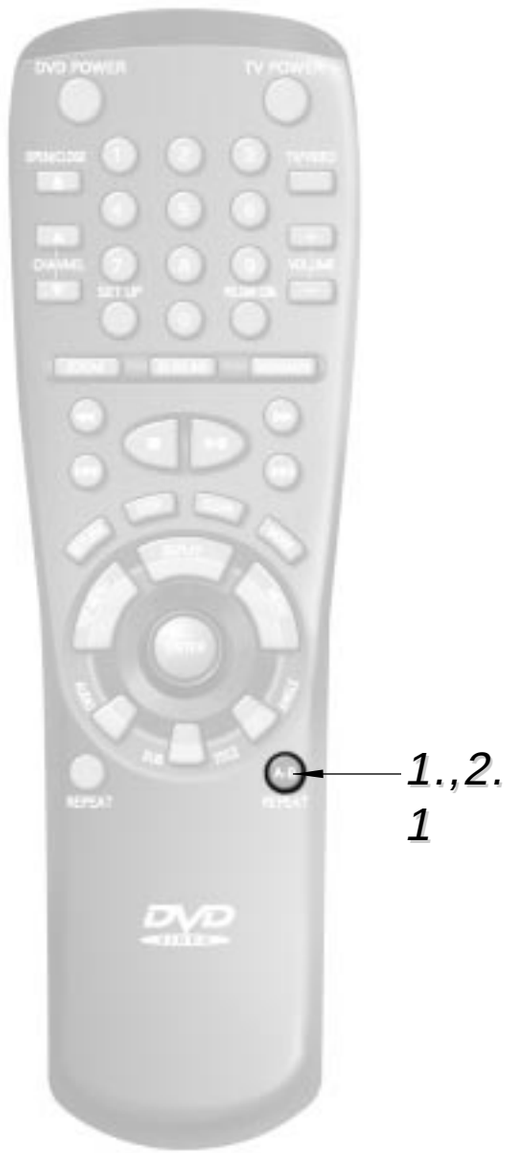
REPEAT : OFF

**NOTE**

- DVD repeats playback by chapter or title, CD and VCD repeat playback by disc or track.
- Depending on the disc, the Repeat function may not work.
- When in VCD 2.0 mode (MENU ON mode), this function does not work.

# Using the A-B Repeat Function

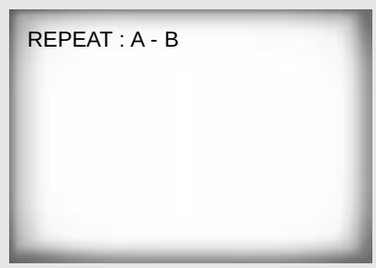
The A-B Repeat function lets you mark the beginning (A) and the end (B) of a segment. Marking the segment allows you to review it by pressing the REPEAT button.




## To set up A-B Repeat

1. Press the A-B REPEAT button at the beginning (A) of the segment you want to review.

2. Press the A-B REPEAT button again at the end (B) of the segment you want to review. The segment will begin repeating.




## To clear A-B Repeat

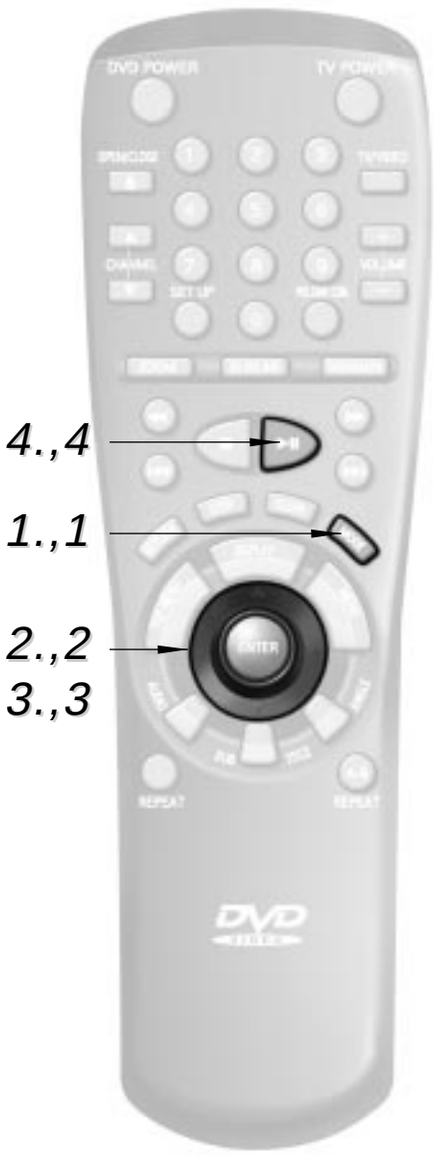
1 Press the A-B REPEAT button.

**NOTE**

- New titles or tracks must be marked separately.
- If the title or track is completed before marking the end (B), the end of title or track becomes B automatically.
- Depending on the disc, the A-B Repeat function may not work.
- When in VCD 2.0 mode (MENU ON mode), this function does not work.

# Program Playback in a Specific Order

Program playback lets you set up an order of playback for the titles, chapters, or tracks of a specific disc. Your player must be in stop mode for this feature to work.




## Program DVD

e.g To program chapters 5 and 7 in order.

**1.** In stop mode, press the MODE button.

| TITLE | CHAPTER |
|---|---|
| 01 02 03 04<br>05 06 07 08<br>09 10 11 12<br>13 14 15 16 | -- -- -- --<br>-- -- -- --<br>-- -- -- --<br>-- -- -- -- |

RETURN ◀▶ ENTER

**2.** Use the LEFT/RIGHT button to select CHAPTER. Press the ENTER button.

**3.** Use the LEFT/RIGHT or UP/DOWN button to select 05 and press ENTER. Then select 07 and press ENTER button.

**4.** Press the PLAY/PAUSE button. The disc will be played back in programmed order.

## Program VCD or CD

e.g To program tracks 5 and 7 in order.

**1** In stop mode, press the MODE button.

**2** Use the LEFT/RIGHT button to select PROGRAM. Press the ENTER button.

| TRACK | PROGRAM ORDER |
|---|---|
| **01** 02 03 04<br>05 06 07 08<br>09 10 11 12<br>13 14 15 16 | -- -- -- --<br>-- -- -- --<br>-- -- -- --<br>-- -- -- -- |

CLEAR LAST TRACK
CLEAR ALL TRACKS
PRESS PLAY TO START

RETURN ▼▲ ◀▶ ENTER

**3** Use the LEFT/RIGHT or UP/DOWN button to select 05 and press ENTER. Then select 07 and press the ENTER button.

**4** Press the PLAY/PAUSE button. The disc will be played back in programmed order.

e.g To start RANDOM playback.

- Press the MODE button while in stop mode.
- Use the LEFT/RIGHT button to select RANDOM and press the ENTER button.

The disc will be played back in random order.

### When you make a wrong selection during programming

- Use the UP/DOWN button to select CLEAR LAST TRACK (or CHAPTER, or TITLE).
- Press the ENTER button to delete the last track (or chapter, or title) in the program order.

### When you want to delete the entire program

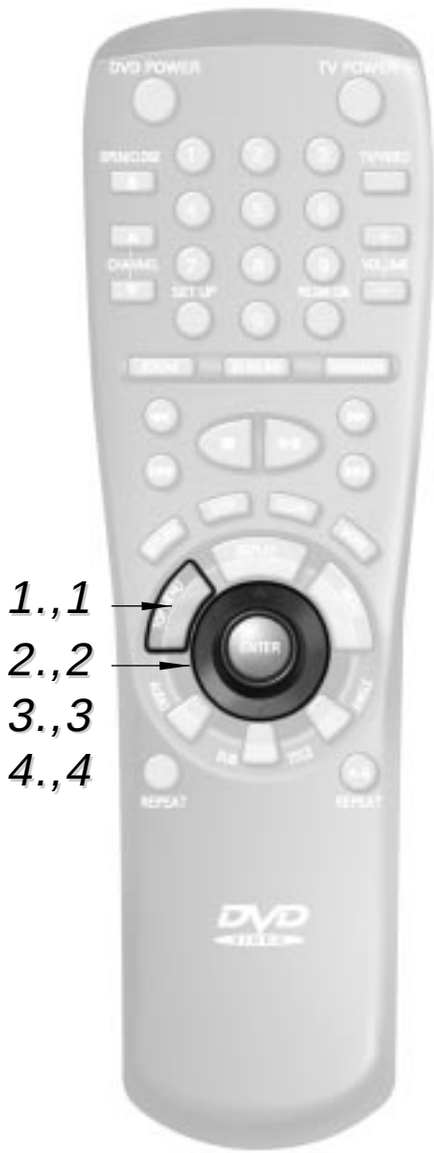
- Use the UP/DOWN button to select CLEAR ALL TRACKS (or CHAPTERS, or TITLES).
- Press the ENTER button to delete all tracks, chapters or titles in the program order. All programmed tracks, chapters or titles are also deleted when the disc is removed or the DVD player is turned off.

**NOTE**

- Depending on the disc, the Program Playback function may not work.
- To resume normal playback, press the CLEAR button.

# Using the Disc View Function

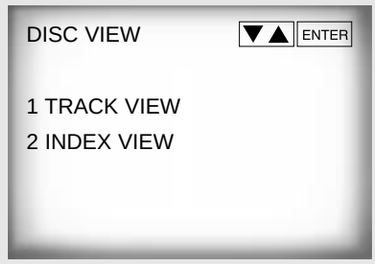
The desired music or video display can be accessed directly without using the menu function.




## Track View (VCD)

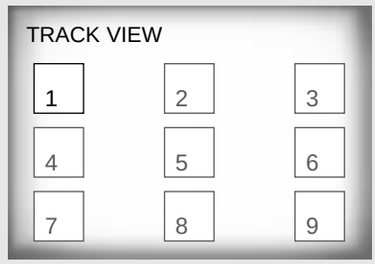
Displays the beginning view of each track and the track number.

1. Press the TOP MENU button during playback.




2. Press the UP/DOWN button to select TRACK VIEW. Press the ENTER button.

3. Select the desired view by pressing the UP/DOWN or LEFT/RIGHT buttons.




(An example of a Track View)

4. Press the ENTER button.

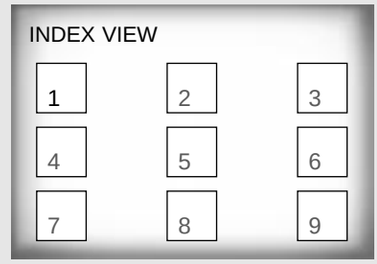
## Index View (VCD)

Displays the equally divided 9 views of the current playing track.

1 Press the TOP MENU button during playback.

2 Press UP/DOWN button to select INDEX VIEW. Press the ENTER button.

3 Select the desired view by pressing UP/DOWN or LEFT/RIGHT buttons.




4 Press the ENTER button.

### When you press TOP MENU button during DVD playback

The disc's TITLE MENU function will come up. The TITLE MENU function will only work if the disc has two or more titles.

### When you press TOP MENU button during CD playback

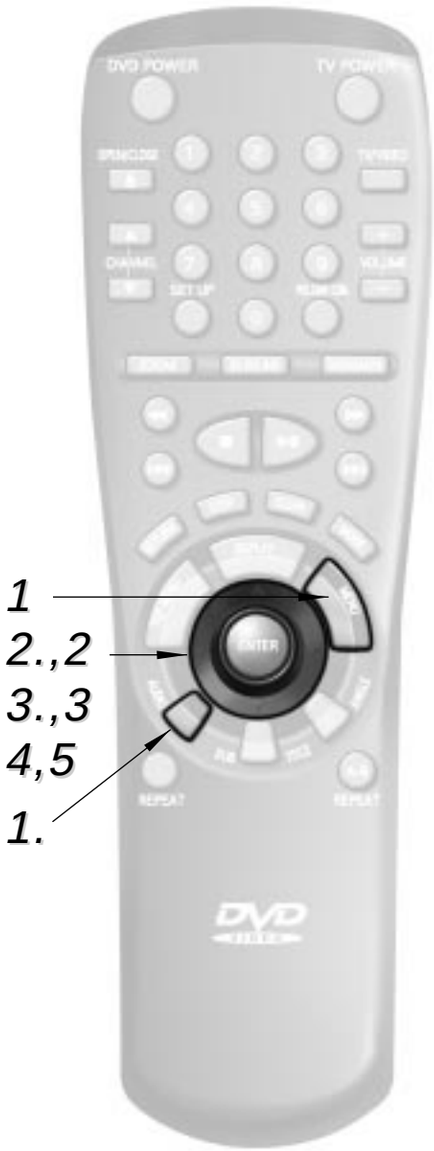
The unit enters the INTRO SCAN mode. INTRO SCAN lets you listen to the beginning of each music segment for about 10 seconds.

**NOTE**

- When in VCD 1.1 & 2.0 mode (MENU OFF mode), this function works.
- In stop mode on VCD, press the TOP MENU button and the TRACK VIEW will be displayed directly.

# Selecting Audio

You can select a desired language quickly and easily with the AUDIO button. If a menu is encoded on the disc, you can also select by using the MENU button.




## Using the Audio Button

1. During playback, press the AUDIO button.

2. Use the UP/DOWN button to select the desired language on a DVD.

- The audio and subtitle languages are represented by abbreviations.

3. Use the UP/DOWN button to select STEREO, R CHANNEL or L CHANNEL. (On VCD/CD)

## Using the Menu Button

### When playing a DVD

1 Press the MENU button.

2 Use the UP/DOWN button to select AUDIO information.

(An example of a disc menu)

3 Press the ENTER button.

4 Use the UP/DOWN button to select ‘ENGLISH’.

(An example of a disc menu)

5 Press the ENTER button.

### When playing a VCD

In disc version 2.0, the MENU button works as a conversion switch between MENU ON and MENU OFF mode. When playing a VCD 1.1 or CD, the MENU button will not work.

**How to have the same audio language come up whenever you play back a DVD.**

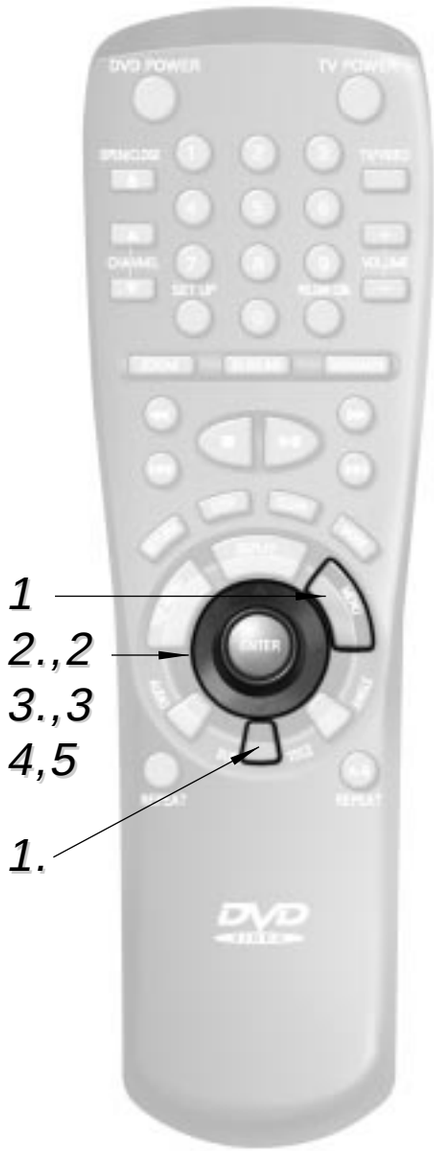
Refer to “Setting Up the Language Features” on page 34.

**NOTE**

- This function depends on what languages are encoded on the disc and may not work with all DVDs.
- A DVD disc can contain up to 8 audio languages.

# Selecting the Subtitle Language

When a DVD is recorded with subtitles, you can use the Subtitle feature to view the subtitles on-screen. If a menu is encoded on the disc, you can also select by using the MENU button.

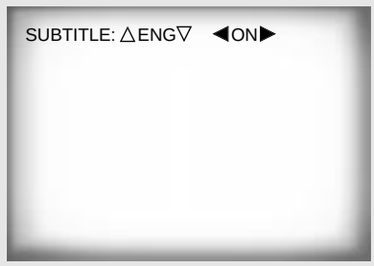



## Using the SUBTITLE button

1. Press the SUBTITLE button.

2. Use the UP/DOWN button to select the desired subtitle language.

3. Use the LEFT/RIGHT button to determine whether or not the subtitle will be displayed.




- Initially, the subtitling will not appear on screen.
- The audio and subtitle languages are represented by abbreviations.

## Using the MENU button

1 Press the MENU button.

2 Use the UP/DOWN button to select SUBTITLE information.

(An example of a disc menu)

3 Press the ENTER button.

4 Use the UP/DOWN button to select the desired language.

(An example of a disc menu)

5 Press the ENTER button.

### When playing a VCD

In disc version 2.0, the MENU button works as a conversion switch between MENU ON and MENU OFF mode. When playing a VCD 1.1 or CD, the MENU button will not work.

**How to have the same subtitle language come up whenever you play back a DVD.**

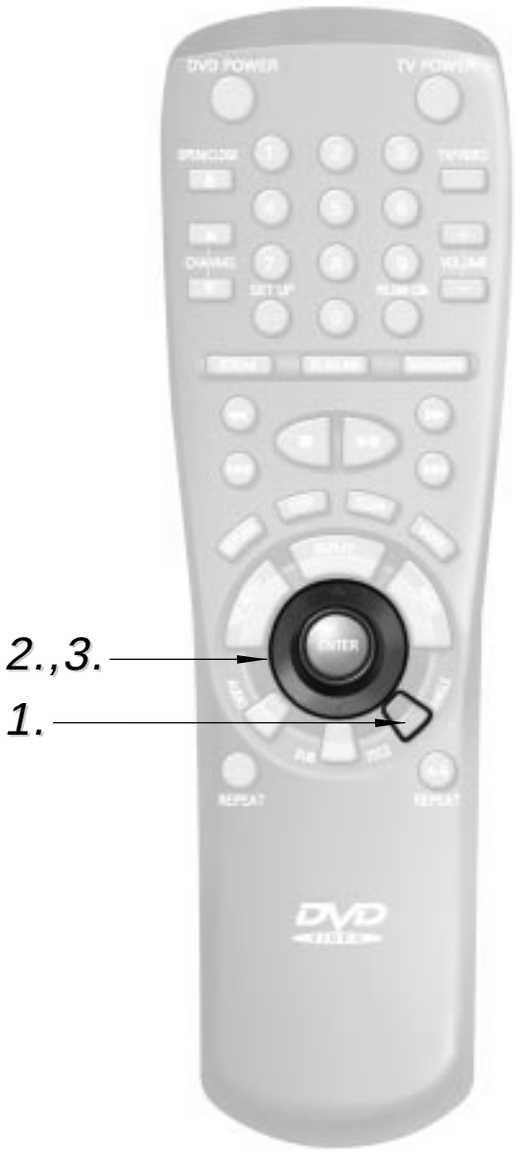
Refer to “Setting Up the Language Features” on page 34.

**NOTE**

- This function depends on what languages are encoded on the disc and may not work with all DVDs.
- A DVD disc can contain up to 32 subtitle languages.

# Selecting the Desired Screen Angle

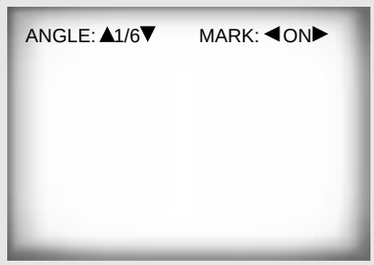
When a DVD contains multiple angles of a particular scene, you can use the Angle function.




## Using the ANGLE button

**Check to see if an 'ANGLE ( )' mark is present at the upper right hand corner of the screen.**

1. When an 'ANGLE' mark is shown, press the ANGLE button.




(Angle information display example)

2. Use the UP/DOWN button to select the desired screen angle. Then press the ENTER button.

( Angle information display example)

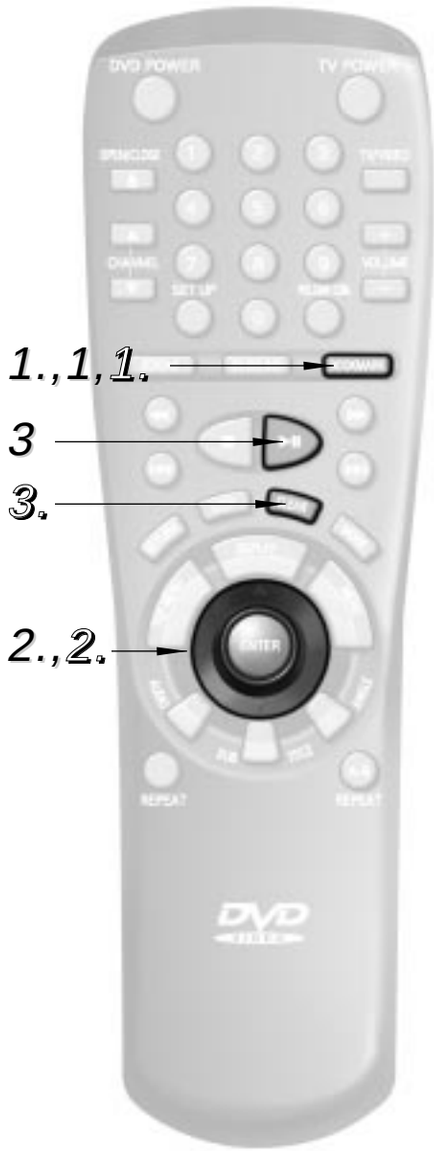
3. Use the LEFT/RIGHT button to determine whether or not the 'ANGLE' mark will be displayed.

**NOTE**

- This function is disc-dependent, and may not work with all DVDs.
- This function does not work when a DVD has not been recorded with a multi-camera angle system.

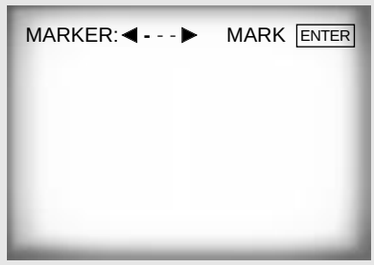
# Using the Bookmark Function

The Bookmark function lets you select parts of a DVD or VCD (MENU OFF mode) so that you can quickly find the section at a later time.




## Using the Bookmark Function (DVD/VCD)

1. During playback, press the BOOKMARK button on the remote. Then 'MARKER' will be displayed.




2. Use the LEFT/RIGHT button to move to the desired bookmark icon.

3. When you reach the scene you want to mark, press the ENTER button. The icon will change to a number (1, 2, or 3).

4. Press the BOOKMARK button to turn off the display.

## Recalling a Marked Scene

1 During playback, press the BOOKMARK button on the remote.

2 Use the LEFT/RIGHT button to select a marked scene.

3 Press the PLAY/PAUSE button to skip to the marked scene.

## Clearing a Bookmark

1. During playback, press the BOOKMARK button on the remote.

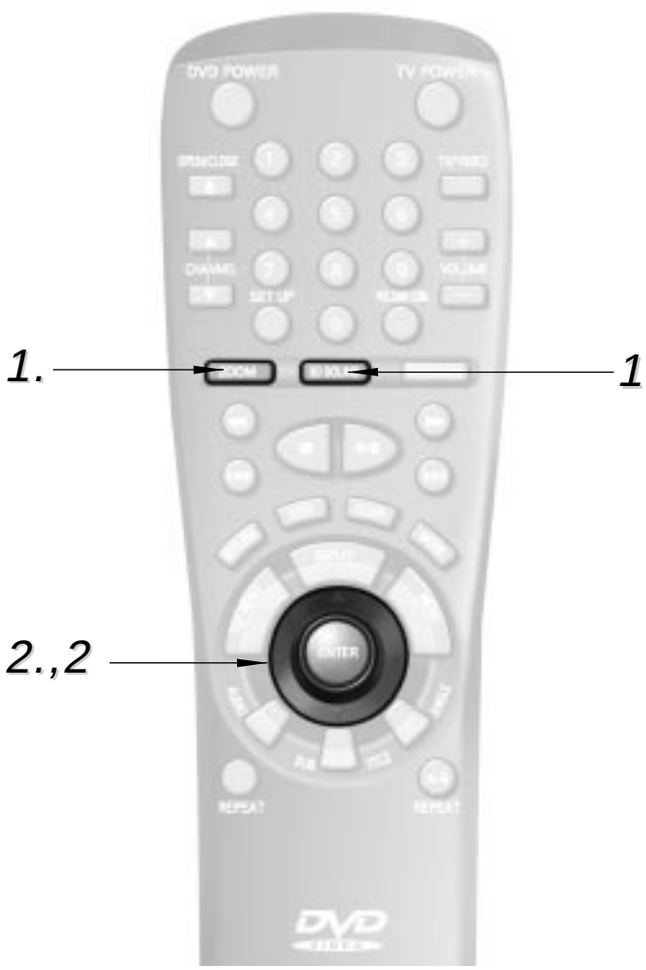
2. Use the LEFT/RIGHT button to select the bookmark number you want to delete.

3. Press the CLEAR button to delete a bookmark number. Press the BOOKMARK button to turn off display.

**NOTE**

- Up to three scenes may be marked at the same time.
- When in VCD 2.0 mode (MENU ON mode), this function does not work.
- Depending on the disc, the Bookmark function may not work.

# Using the Zoom and 3D Sound




## Using the Zoom Function (DVD/VCD)

1. During playback or pause mode, press the ZOOM button on the remote. The square frame will be displayed on screen.
2. Use the UP/DOWN or LEFT/RIGHT button to select the part of the screen you want to zoom.
3. Press the ENTER button.

- During DVD playback, press ENTER to zoom in 2X/4X/normal in order.
- During VCD playback, press ENTER to zoom in 2X/normal in order.

## Using the 3D Sound Function

The simulated surround effect (SPATIALIZER N-2-2) depends on the disc contents. If you connect the unit to your stereo system, you can enhance sound quality and produce a greater surround effect.
This feature is useful when you are using the DVD player with a two channel stereo through the analog outputs.
(Discs which are recorded with LPCM or DTS will not work. When the DOLBY DIGITAL OUT or MPEG-2 DIGITAL OUT is set to BITSTREAM in the SETUP MENU, the 3D Sound function will not work.)

1. During playback, press the 3D SOUND button. The 3D SOUND mark will be displayed on screen. (Be sure the DOLBY DIGITAL OUT and MPEG-2 DIGITAL OUT are set to PCM.)
2. Press the LEFT/RIGHT button to turn the 3D Sound feature on or off.

## Using the Master Volume Control Function

**Press the VOLUME CON. button. Use the UP/DOWN button to select a suitable volume.**

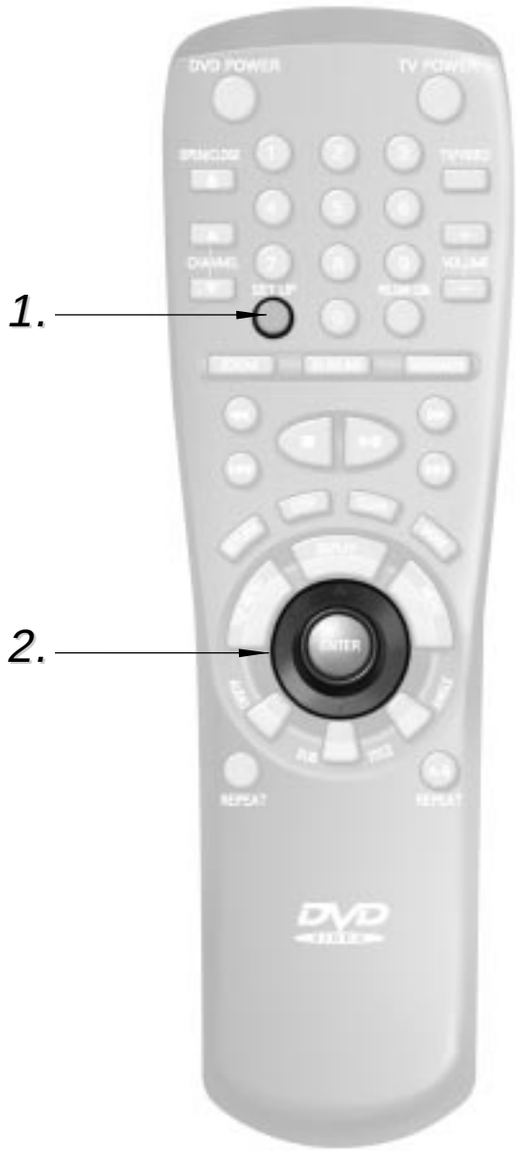
- Master Volume Control function lets you adjust the volume of the player's output. This is useful for matching the player's output level to other equipment in your system.
- Master Volume Control function on CD titles with DTS will not work under VOLUME : 96 level.
- When the Dolby DIGITAL OUT or MPEG-2 DIGITAL OUT is set to BITSTREAM in the SETUP MENU, the Volume Control function will not work.

**NOTE**

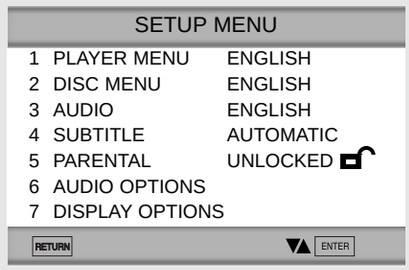
- 3D Sound is possible only on discs recorded using DOLBY SURROUND or DOLBY DIGITAL. However, some of these discs do not contain the rear sound signal.
- Depending on the disc, the Zoom and 3D Sound function may not work.
- Certain audio feature of this product manufactured under a license from Desper Products, Inc., Spatializer® and circle-in-square are trademarks owned by Desper Products Inc.
- DTS : A digital surround sound format that, like Dolby Digital, provides six separate audio channels. To hear a DTS soundtrack, you must connect the player's DIGITAL AUDIO OUT jack to a compatible DTS-equipped receiver.
- LPCM : Linear Pulse Code Modulation-a digital recording process.

# Using the Setup Menu

The Setup Menu allows you to customize your DVD player by adjusting the settings for such things as language preference, parental level, and type of television screen used.




**1.** Press the SETUP button on the remote in the play or stop mode.




❶ PLAYER MENU : Setup of the Display Language (See P33)
Use the Player preference menu to select the language for the player's on-screen displays.

❷ DISC MENU : Setup of the Menu Language (See P34)
Use the Menu preference menu to select the language you want a DVD's disc menu to be displayed in.

❸ AUDIO : Setup of the Audio Language (See P34)
Use the Audio preference menu to select the soundtrack language.

❹ SUBTITLE : Setup of the Subtitle Language (See P34)
Use the Subtitle preference menu to select the language the disc's subtitles are to be displayed in.

❺ PARENTAL : Setup of the Parental Level (See P35)
Allows users to set the level necessary to prevent children from viewing unsuitable movies such as those with violence, X rating, etc.

❻ AUDIO OPTIONS : Setup of the Audio Options (See P36)
Use to set up the audio options such as speaker setup.

❼ DISPLAY OPTIONS : Setup of the Display Options (See P38, 39)
Use to select which type of screen you want to watch and several display options.

**2.** Use the UP/DOWN button on the remote to access the different features.

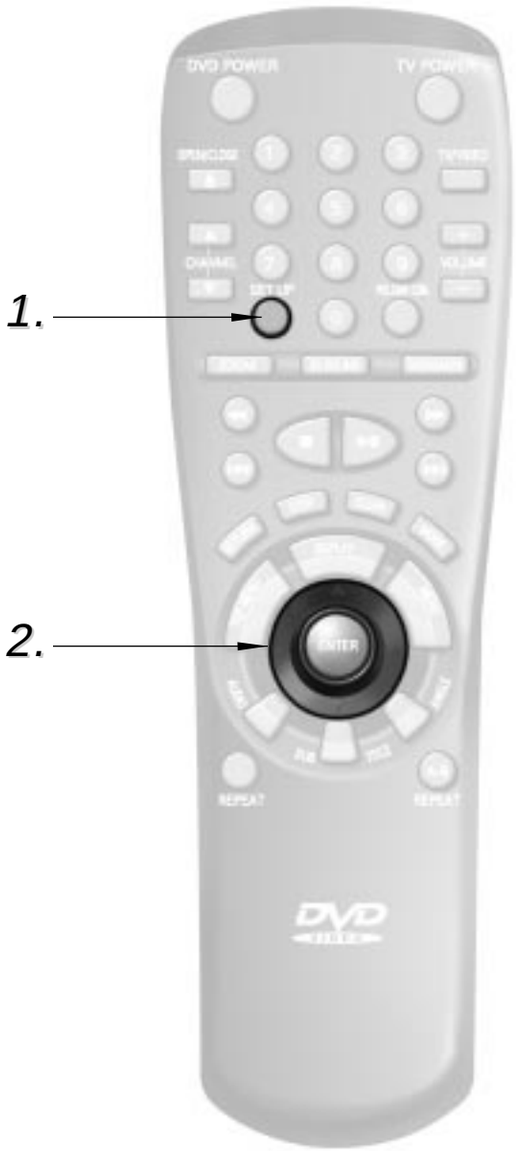
**3.** Press the ENTER button to access the sub features.

To make the setup screen disappear after setting up, press the SETUP button again.

**NOTE** Depending on the disc, some SETUP menu selections may not work.

# Setting Up the Language Features

You can set the language for your DVD player in advance.




## Using the Player Menu

e.g Setting up in ENGLISH.

1. Press the SETUP button when in play or stop mode.

2. Use the UP/DOWN button to select the PLAYER MENU.

| SETUP MENU | |
|---|---|
| 1 **PLAYER MENU** | **ENGLISH** |
| 2 DISC MENU | ENGLISH |
| 3 AUDIO | ENGLISH |
| 4 SUBTITLE | AUTOMATIC |
| 5 PARENTAL | UNLOCKED |
| 6 AUDIO OPTIONS | |
| 7 DISPLAY OPTIONS | |
| RETURN | ▼▲ ENTER |

3. Press the ENTER button.

4. Use the UP/DOWN button to select 'ENGLISH'.

| PLAYER MENU LANGUAGE | |
|---|---|
| ▶ 1 | **ENGLISH** |
| 2 | FRANCAIS |
| 3 | DEUTSCH |
| 4 | ESPAÑOL |
| 5 | ITALIANO |
| 6 | NEDERLANDS |
| RETURN | ▼▲ ENTER |

5. Press the ENTER button.

- ENGLISH is selected and the screen returns to SETUP MENU.
- To make the SETUP MENU disappear, press the RETURN button.

# Setting Up the Language Features (Cont d)

## Using the Disc Menu Language

This function changes the language only for the text on the disc menu screens.

e.g Setting up in ENGLISH.

1 Press the SETUP button when in play or stop mode.

2 Use the UP/DOWN button to select DISC MENU.

3 Press the ENTER button.

4 Use the UP/DOWN button to select 'ENGLISH'.

- Select "OTHERS" if the language you want is not listed.

5 Press the ENTER button.

- ENGLISH is selected and the screen returns to SETUP MENU.

## Using the Audio Language

e.g Setting up in ENGLISH.

1. Press the SETUP button when in play or stop mode.

2. Press the UP/DOWN button to move to AUDIO.

3. Press the ENTER button.

4. Press the UP/DOWN button to select ENGLISH .

- Select "ORIGINAL" if you want the default soundtrack language to be the original language the disc is recorded in.
- Select "OTHERS" if the language you want is not listed.

5. Press the ENTER button.

- ENGLISH is selected and the screen returns to SETUP MENU.

## Using the Subtitle Language

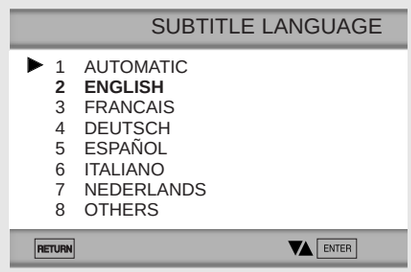
e.g Setting up in ENGLISH.

A Press the SETUP button when in play or stop mode.

B Use the UP/DOWN button to select SUBTITLE.

C Press the ENTER button.

D Use the UP/DOWN button to select 'ENGLISH'.




- Select "AUTOMATIC" if you want the subtitle language to be the same as the language selected as the audio preference.
- Select "OTHERS" if the language you want is not listed. Some discs may not contain the language you select as your initial language; in that case the disc will use its original language setting.

E Press the ENTER button.

- ENGLISH is selected and the screen returns to SETUP MENU.

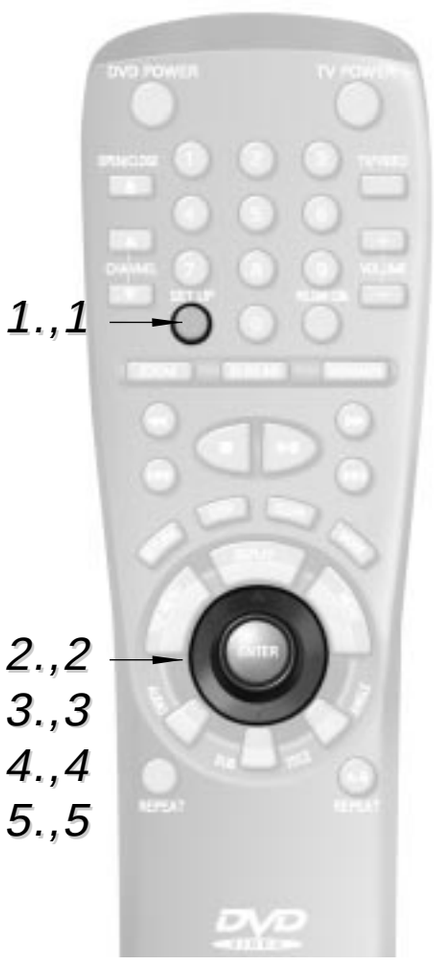
**How to make the SETUP MENU disappear or return to menu screen during set up.**

Press RETURN button.

**NOTE** If the selected language is not recorded on the disc, the original pre-recorded language is selected.

# Setting Up the Parental Level

The Parental Level function works in conjunction with DVDs that have been assigned a rating - which helps you control the types of DVDs that your family watches. There are up to 8 rating levels on a disc.




**NOTE**

What if a DVD's rating exceeds the player's rating level?
The player alerts you when you try to play a DVD with a rating that exceeds the level you've set. The message, "Your selection exceeds the rating level for this player." appears on screen. Some discs are authored with a rating override feature included. When you play a disc with this feature, the message, “Your selection exceeds the rating level for this player. Override the level?” is displayed. Select “Override” or “Cancel.” If you choose to override the rating level, you will need to enter your 4-digit password to begin playback.

## SETTING THE PASSWORD

1 Press the SETUP button when in play or stop mode.

2 Press the UP/DOWN button to select PARENTAL.

3 Press the ENTER button and enter your 4-digit password by pressing the 0-9 button.

- ‘7777’ is the original password that has been encrypted in the player.

4 Move to CHANGE PASSWORD by using the UP/DOWN button and press the ENTER button.

PARENTAL CONTROL

1 RATING LEVEL
**2 CHANGE PASSWORD**

RETURN ▼▲ ENTER

5 Enter the new password.

- After entering the new password, re-enter it one more times to make sure the password works.
- The Parental Level function is compatible only with parental level encoded discs.

**How to make the SETUP MENU disappear or return to menu screen during set up.**

Press RETURN button.

## SETTING THE PARENTAL LEVEL

e.g Setting up in LEVEL 6

1. Press the SETUP button when in play or stop mode.

2. Press the UP/DOWN button to select PARENTAL.

3. Press the ENTER button and enter your 4-digit password by pressing the 0-9 button.

4. Move to the RATING LEVEL by using the UP/DOWN button and press the ENTER button.

PARENTAL CONTROL

**1 RATING LEVEL**
2 CHANGE PASSWORD

RETURN ▼▲ ENTER

5. Move to LEVEL 6 by using the UP/DOWN button and press the ENTER button.

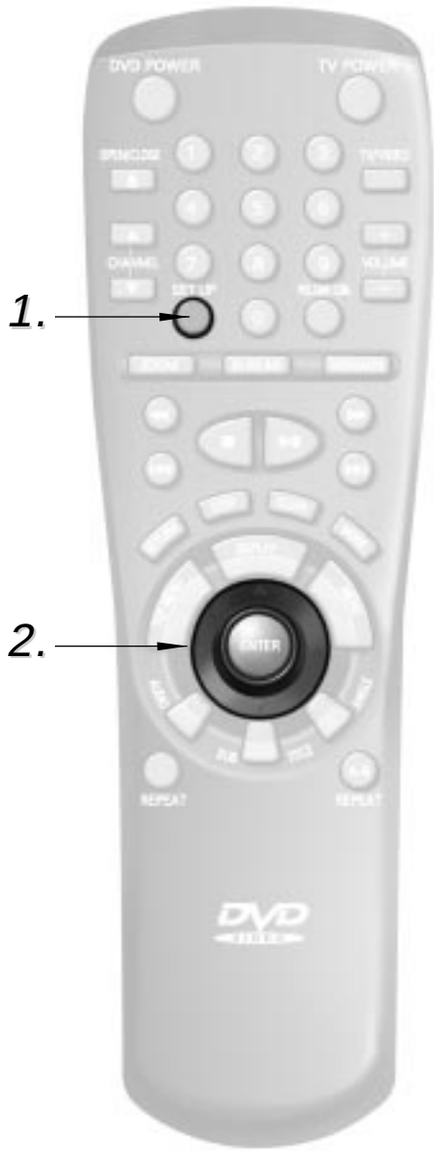
RATING LEVEL

▶ UNLOCK
LOCK LEVEL 8 ADULT
LEVEL 7
**LEVEL 6**
**LEVEL 5**
**LEVEL 4**
**LEVEL 3**
**LEVEL 2**
**LEVEL 1 KIDS SAFE**

RETURN ▼▲ ENTER

- The disc which contains LEVEL 7 or LEVEL 8 will now not play.

# Setting Up Audio Options




**How to make the SETUP MENU disappear or return to menu screen during set up.**

Press RETURN button.

1. Press the SETUP button when in play or stop mode.
2. Use the UP/DOWN button to select AUDIO OPTIONS. Then press the ENTER button.
3. Use the UP/DOWN button to select the desired item. Then press the ENTER button.

AUDIO OPTIONS

| | |
|---|---|
| 1 DOLBY DIGITAL OUT | PCM |
| 2 MPEG-2 DIGITAL OUT | PCM |
| 3 DTS | OFF |
| 4 DYNAMIC COMPRESSION | ON |
| 5 2X SCAN AUDIO | OFF |
| 6 SPEAKER SETUP | 909 only |

RETURN ▼▲ ENTER

❶ DOLBY DIGITAL OUT/ ❷ MPEG-2 DIGITAL OUT
A digital surround sound format that is recorded by Dolby Digital/MPEG-2 Audio. Select the suitable output signal type of DIGITAL AUDIO OUT/MPEG-2 DIGITAL OUT (Bitstream/PCM) during playback.

❸ DTS
This program features discrete 5.1 channel sound-track and must be played through DTS-capable equipment. When played through DTS equipment, sound will be heard from all five system speakers and a subwoofer.

❹ DYNAMIC COMPRESSION
Compresses the dynamic range (quietest to loudest sound) of a disc's soundtrack. This function is disc-dependent, and may not work with all DVDs.

❺ 2X SCAN AUDIO
Turns audio off or on when a disc is in 2X playback mode.

❻ SPEAKER SETUP (DVD-909 only)
To select the SPEAKER SETUP to hear surround sound.

4. Use the UP/DOWN button to select the desired item. Then press the ENTER button.

❶ DOLBY DIGITAL OUT
1 PCM : Converts to PCM (2CH) 48kHz/16Bit audio. Select PCM when using the Analog Audio Outputs.
2 BITSTREAM : Converts to Dolby Digital BITSTREAM (1CH-5.1CH). Select BITSTREAM when using the Digital Audio Output.

❷ MPEG-2 DIGITAL OUT
1 PCM : Converts to PCM (2CH) of 48kHz/16Bit. Select PCM when using the Analog Audio Outputs.
2 BITSTREAM : Converts to MPEG-2 Audio BITSTREAM (1CH-7.1CH). Select BITSTREAM when using the Digital Audio Output.

Note : Be sure to select the correct Digital Output or no audio will be heard.

❸ DTS
1 ON : Outputs DTS BITSTREAM via digital output only. Select DTS when connecting to a DTS DECODER.
2 OFF : Doesn't output digital signal.

❹ DYNAMIC COMPRESSION
1 ON : To select dynamic compression.
2 OFF : To select the standard range.

❺ 2X SCAN AUDIO
1 ON : Turns 2X audio on.
2 OFF : Turns 2X audio off.
Though 2X SCAN AUDIO is ON in the SETUP MENU, no sound will be heard on discs which are recorded with LPCM, DTS or MPEG-2 AUDIO.

❻ SPEAKER SETUP
Refer to page 37.

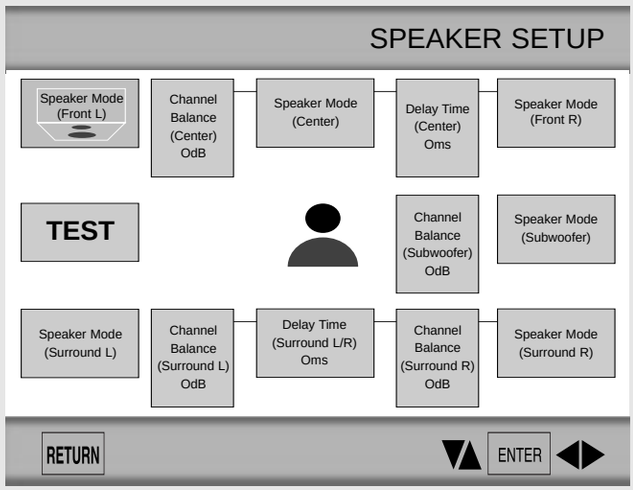
**NOTE**

• Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories. Confidential unpublished works. ©1992-1997 Dolby Laboratories Inc. All rights reserved.

# Surround Sound Speaker Setup (DVD-909 only)

The DVD-909 has a Speaker Setup feature that allows you to customize your surround sound setup. Only when the DVD disc is played or the disc isn't loaded, this feature will be activated.

1. Press the SETUP button in play or stop mode.
2. Press the UP/DOWN button to select AUDIO OPTIONS. Then press the ENTER button.
3. Use the UP/DOWN button to select SPEAKER SETUP. Then press the ENTER button.




■ SPEAKER MODE

You can set a mode in the system that's currently used. Initially it is set as follows:

- Front speaker (L/R) : Found (Large)
- Center speaker : Not found
- Subwoofer : Not found
- Surround speaker (L/R) : Not found

■ DELAY TIME

You can customize the sound to conform to the acoustics of your room by adding a delay effect to the sound of the Center Speaker and Surround Speaker. Initially it is set as "Oms (miliseconds)".

■ TEST

It sends test signals memorized in the system to each speaker except Subwoofer.

■ CHANNEL BALANCE

Adjust the output level of a speaker by using test signals that are memorized in the system. Initially it is set as "OdB".

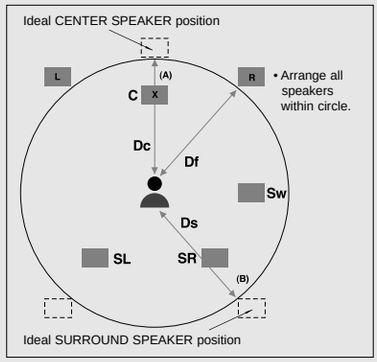
4. Use the UP/DOWN or LEFT/RIGHT button to select the desired item. Then press the ENTER button.
5. Use the UP/DOWN button to select OPTION. Then press the ENTER button.

■ Setting up SPEAKER MODE

- If you have connected the system to a speaker with low frequencies of 100Hz or below, select 'Found(Large)'.
- If you have connected the system to a speaker without low frequencies of 100Hz or below, select 'Found(Small)'. But if you don't connect to a subwoofer, always select 'Found(Large)' for Front Speakers(L/R).
- When you don't connect to speaker, select 'Not found'.

■ Setting up DELAY TIME

- When 5.1CH Surround Sound is played, you can enjoy the best sound if the distance between you and each speaker is the same. You can set Delay Time in the Center/Surround Speaker to customize the sound to the acoustic of your room.




- Setting CENTER SPEAKER

If the distance of Dc is equal to or longer than the distance of Df in the left figure, set the mode as Oms. Otherwise, change the setting according to the table below.

(A) = Df - Dc

| Distance of (A)(cm) | Setting(ms) |
|---|---|
| 50 | 1.3 |
| 100 | 2.6 |
| 150 | 3.9 |
| 200 | 5.3 |

- Setting SURROUND SPEAKERS

If the distance of Df is equal to the distance of Ds in the above, set the mode as Oms. Otherwise, change the setting according to the table below.

(B) = Df - Ds

| Distance of (B)(cm) | Setting(ms) |
|---|---|
| 200 | 5.3 |
| 400 | 10.6 |
| 600 | 15.9 |

■ Setting up TEST

The test output signals come clockwise starting from the Front Speaker(L). Adjust Channel Balance to match to the volume of test signals memorized in the system.

FRONT(L) → CENTER → FRONT(R) → SUBWOOFER → SURROUND(R) → SURROUND(L)

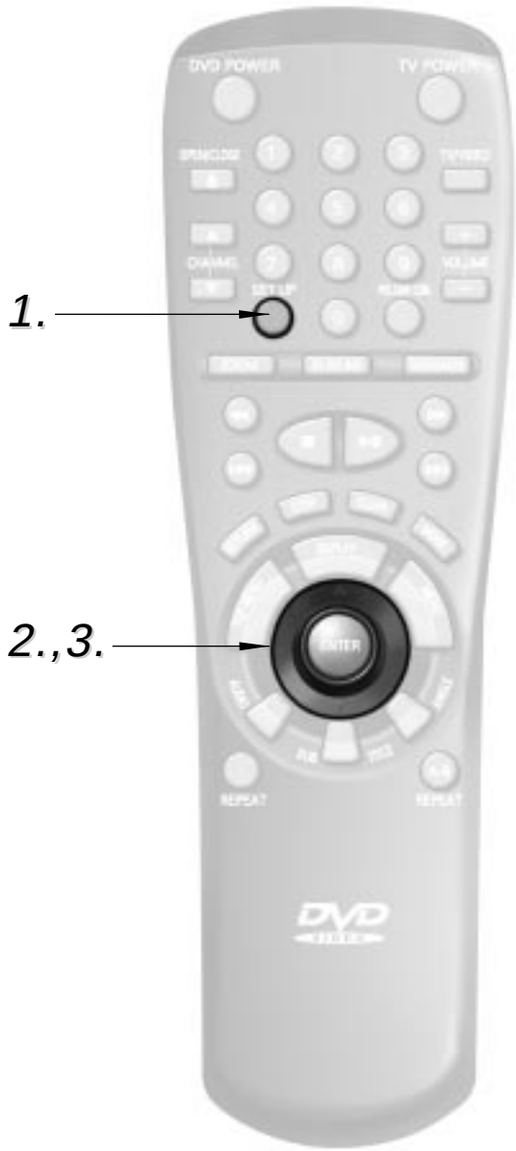
**How to make the SETUP MENU disappear or return to menu screen during set up.**

Press RETURN button.

**NOTE**

- The subwoofer test output signal is lower than the other speakers.
- The MPEG Multichannel logo is a trademark registered by PHILIPS Corporation.

# Setting Up Display Options




1. Press the SETUP button in play or stop mode.
2. Use the UP/DOWN button to select DISPLAY OPTIONS. Then press the ENTER button.
3. Use the UP/DOWN button to select the desired item. Then press the ENTER button.

| DISPLAY OPTIONS | |
|---|---|
| 1 TV ASPECT | 4:3 LB |
| 2 ANGLE MARK | ON |
| 3 STILL MODE | AUTO |
| 4 SCREEN MESSAGES | ON |
| 5 FRONT DISPLAY | AUTO |
| 6 BLACK LEVEL | OFF |
| 7 QUASI-PAL | ON |
| 8 SCART OUT | VIDEO |

RETURN ▼▲ ENTER

❶ TV ASPECT
Depending on the type of television you have, you may want to adjust the screen setting (aspect ratio).

❷ ANGLE MARK
Use to turn on or off the on-screen displays when the DVDs play multiple angles of a particular scene.

❸ STILL MODE
Prevents picture distortion in still mode and displays small letters clearly.

❹ SCREEN MESSAGES
Use to turn on-screen messages on or off.

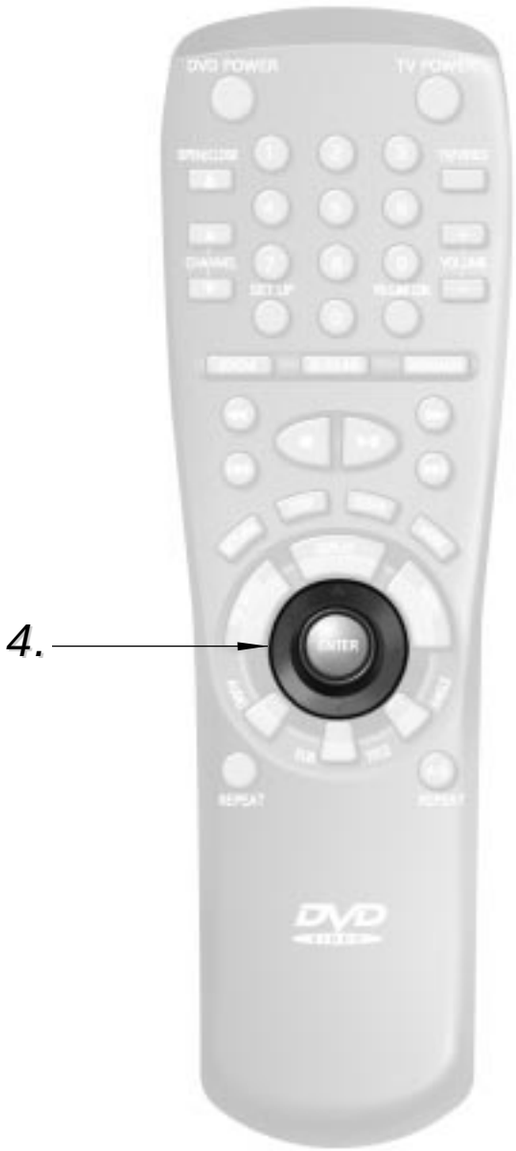
❺ FRONT DISPLAY
Adjust the brightness of the unit's front panel display.

❻ BLACK LEVEL

❼ QUASI-PAL

❽ SCART OUT

# Setting Up Display Options (Cont d)




**4.** Use the UP/DOWN button to select the desired item. Then press the ENTER button.

❶ TV ASPECT
- 1 4:3 LETTER BOX :
Select when you want to see the total 16:9 ratio screen DVD supplies, even though you have a TV with a 4:3 ratio screen. Black bars will appear at the top and bottom of the screen.
- 2 4:3 PAN-SCAN :
Select this for conventional size TVs when you want to see the central portion of the 16:9 screen. (Extreme left and right side of movie picture will be cut off.)
- 3 16:9 WIDE :
You can view the full 16:9 picture in your widescreen TV.

❷ ANGLE MARK
- 1 ON : Displays ANGLE MARK in the upper right corner of screen.
- 2 OFF : Doesn't display it.

❸ STILL MODE
- 1 FIELD : Select this feature when the screen shakes in the AUTO mode.
- 2 FRAME : Select this feature when you want to see small letters more clearly in the AUTO mode.
- 3 AUTO : When selecting AUTO, FIELD/FRAME mode will be automatically converted.

❹ SCREEN MESSAGES
Use this feature to turn the on-screen displays that appear in screen on or off.

❺ FRONT DISPLAY
- 1 BRIGHT : It makes the Front Panel Display bright.
- 2 DIM : It makes the Front Panel Display dim.
- 3 AUTO DIM : It makes the Front Panel Display dim automatically when playing a DVD.

❻ BLACK LEVEL
Adjust the brightness of screen.

❼ QUASI-PAL
Depending on a disc, you can play a NTSC DVD disc by QUASI-PAL mode.

❽ SCART OUT
- 1 RGB : If "RGB" has been selected, RGB signal will emit from the AV JACK(SCART terminal).
- 2 VIDEO : If "VIDEO" has been selected, COMPOSITE VIDEO signal will emit from the AV JACK(SCART terminal).
- 3 S-VIDEO : If "S-VIDEO" has been selected, S-VIDEO signal will emit from the AV JACK(SCART terminal).

**NOTE**
- If you change the INPUT of TV from VIDEO mode to TV mode while the DVD player's power is on and the SCART OUT has been selected to "RGB", TV screen might not appear in a normal mode. Then please watch TV with the DVD player turned off.
- When you playback 16:9 encoded DVD disc on a 4:3 TV when SCART OUT selection is "RGB" and TV ASPECT selection is "16:9 WIDE", TV screen might not appear in normal mode. Then please set the SCART OUT to "VIDEO" or change the TV ASPECT to "4:3 LETTER BOX" or "4:3 PAN-SCAN".

# Controlling a TV with the Remote

The remote can also be set up to control most TVs. To program the remote, use the code that corresponds to your brand.

**1.** Turn on the TV.

**2.** Point the DVD's remote at the TV.

**3.** While holding the TV POWER button down, enter the code for your brand.

**e.g** For Samsung D TVs

While holding down the TV button, enter 0.

**TV Codes**

| CODE | BRAND |
|---|---|
| 0 | SAMSUNG D |
| 1 | SAMSUNG F, LG A, LOEWE, PHILPS, FINLUX A, YOKO, LOEWE OPTA A, MITSUBISHI A, PHONOLA A, RADIOLA A,SCHNEIDER |
| 2 | SAMSUNG A |
| 3 | SAMSUNG B |
| 4 | SAMSUNG C |
| 5 | SAMSUNG E |
| 6 | TOSHIBA A |
| 7 | PANASONIC A |
| 8 | GRUNDIG A, BLAUPUNKT, SIEMENS |
| 9 | SHARP A |
| SETUP | HITACHI A |
| DISPLAY | SANYO A, AKAI, FISHER |
| OPEN/CLOSE | HITACH B, SABA A, THOMSON A, NORDMENDE A |
| AUDIO | THOMSON B, SABA B, TELEFUNKEN A, NORDMENDE B BRANDT, FERGUSON, PIONEER A, TELEAVIA, HITACH C |
| SUB TITLE | SONY A |
| DVD POWER | TOSHIBA B, SANYO B, SHARP B, SONY B, MITSUBISHI B |
| ANGLE | TOSHIBA C, GRUNDIG B, FINLUX B |
| TOP MENU | TOSHIBA D |
| MENU | TOSHIBA E |
| RETURN | PHILIPS A, PHONOLA B, RADIOLA B |
| REV SEARCH | TOSHIBA F, GRUNDIG C, CGE, IMPERIAL, MIVAR |
| REPEAT | SABA C, BANG&OLUFSEN, LOEWE OPTA B, BRIONVEGA FINLUX C, FORMENTI, PHILIPS B, SINGER, SINUDYNE METZ, WEGA, PHONOLA C, RADIOMARELLI |
| FWD SEARCH | NOKIA, PANASONIC B, SABA D, PIONEER B REX, SELECO, SALORA |
| BACK SKIP | HITACHI D, NORDMENDE C, PANASONIC C,THOMSON C SABA E, TELEFUNKEN B, CONTINENTAL EDISON |
| PLAY/PAUSE | PANASONIC D |
| NEXT SKIP | PANASONIC E |
| STOP | PANASONIC F |
| STEP | TELEFUNKEN C |
| CLEAR | MIVAL |
| MODE | LG B |
| A-B REPEAT | SHARP C |
| BOOKMARK | JVC |

**4.** If the TV turns off, setup is complete.

Enter other codes of the same brand if the first code does not work.

**5.** To operate the TV, use the "TV Function Buttons" described on page 14.

**NOTE** The remote may not be able to control every model TV of the brands listed.

# Troubleshooting Guide

Proper functioning of your DVD player is mostly dependent on the discs you play. When some of the functioning indicated in the User's Manual do not work properly, it is highly probable that the disc is responsible. We strongly recommend you review the instruction book before you start using the player. For your convenience, we have enlisted some tips to help solve problems you might encounter while using the DVD player. However, if the same problem occurs repeatedly, please contact your nearest service center.

| Problem | Action | I/B |
|---|---|---|
| No operations can be performed with remote. | • Check the batteries in the remote. May need replacing.<br>• Operate the remote control at a distance of no more than 20 feet.<br>• Remove batteries and hold down one or more buttons for several minutes to drain the microprocessor inside the remote to reset it. Reinstall batteries and try remote again. | P 14 |
| Disc does not play. | • Ensure that the disc is installed with the label side facing up.<br>• Check the region number of the DVD.<br>• This player cannot play CD-ROMs, DVD-ROMs, CD-R, etc. Insert a DVD, VIDEO-CD or CD. | P 7, 19, 20 |
| 5.1 channel sound is not being reproduced. | • 5.1 channel sound is reproduced only when the following conditions are met. : 1)The DVD player is connected with the proper amplifier<br>2)The disc is recorded with 5.1 channel sound.<br>• Check whether the disc being played has the "Dolby 5.1 ch" mark on the outside.<br>• Check if your audio system is connected and working properly. | P 7, 16, 18, 36, 37 |
| The ⊘ icon appears on screen. | • The features or action cannot be completed at this time because:<br>1) The DVD's software restricts it.<br>2) The DVD's software doesn't support the feature (e.g., angles).<br>3) The feature is not available at the moment.<br>4) You've requested a title or chapter number or search time that is out of range. | P 14,<br>P 23 ~ 31 |
| Disc Menu doesn't appear. | • Check if the disc has a Menu. | P 27 ~ 28 |
| Playback mode differs from the Setup Menu selection. | • Some of the functions selected in the Setup Menu may not work properly if the disc is not encoded with the corresponding function. | P 32 ~ 39 |
| The screen ratio cannot be changed. | • The Screen Ratio is fixed on your DVDs. | P 38, 39 |
| No audio | • Make sure you have selected the correct Dolby Digital Out/MPEG-2 Digital Out in the Audio Options Menu. | P 37 |
| Forgot parental level | • With the power on, press and hold the STOP and PLAY/PAUSE button on the player. This resets the password feature and all other settings to the initial factory settings. You may be required to select a menu language. | P 35 |
| If you experience other problems. | • Go to the contents and find the section of the instruction book that contains the explanations regarding the current problem, and follow the procedure once again.<br>• If the problem still cannot be solved, please contact your nearest authorized service center or call 1-800-SAMSUNG. | |

# Specifications **DVD-909**

| | | |
|---|---|---|
| General | Power Requirements | AC 110 ~ 240V, 50/60Hz |
| | Power Consumption | 19 W |
| | Weight | 3.4 kg |
| | Dimensions | W 430 mm x D 280 mm x H 89 mm |
| | Operating Temperature Range | +5°C to +35°C |
| | Operating Humidity Range | 10% to 75% |
| Disc | DVD (DIGITAL VERSATILE DISC) | Reading Speed : 3.49 m/sec. |
| | | Approx. Play Time (Single Sided, Single Layer Disc) : 135 min. |
| | CD : 12 cm (COMPACT DISC) | Reading Speed : 1.2 to 1.4 m/sec. |
| | | Maximum Play Time : 74 min. |
| | CD : 8 cm (COMPACT DISC) | Reading Speed : 1.2 to 1.4 m/sec. |
| | | Maximum Play Time : 20 min. |
| | VCD : 12 cm | Reading Speed : 1.2 to 1.4 m/sec. |
| | | Maximum Play Time : 74 min. (Video + Audio) |
| Video Output | SCART JACK | R(Red) : 0.714 Vp-p (75 Ω load) |
| | | G(Green) : 0.714 Vp-p (75 Ω load) |
| | | B(Blue) : 0.714 Vp-p (75 Ω load) |
| | | Composite Video : 1.0 Vp-p (75 Ω load) |
| | | Luminance Signal : 1.0 Vp-p (75 Ω load) |
| | | Color Signal : 0.286 Vp-p (75 Ω load) |
| | Composite Video | 2 Channel : 1.0 Vp-p (75 Ω load) |
| | S-VIDEO | Luminance Signal : 1.0 Vp-p (75 Ω load) |
| | | Color Signal : 0.286 Vp-p (75 Ω load) |
| Audio Output | SCART JACK | 2 Channel : L(1/L), R(2/R) |
| | RCA-JACK | 5.1 Channel : F/L, L/R, R/L, R/R, C/T, S/W |
| | | 2 Channel : L(1/L), R(2/R) |
| | Output Level | Analog : 2 Vrms (1 kHz) |
| | | Digital : 1.15 Vp-p |
| | *Frequency Response | 48 kHz Sampling : 4 Hz to 22 kHz |
| | | 96 kHz Sampling : 4 Hz to 44 kHz |
| | *S/N Ratio | 110 dB |
| | *Dynamic Range | 96 dB |
| | *Total Harmonic Distortion | 0.003 % |

*: Nominal specification

# Specifications **DVD-709**

| | | |
|---|---|---|
| General | Power Requirements | AC 110 ~ 240V, 50/60Hz |
| | Power Consumption | 17 W |
| | Weight | 3.4 kg |
| | Dimensions | W 430 mm x D 280 mm x H 89 mm |
| | Operating Temperature Range | +5°C to +35°C |
| | Operating Humidity Range | 10% to 75% |
| Disc | DVD (DIGITAL VERSATILE DISC) | Reading Speed : 3.49 m/sec |
| | | Approx. Play Time (Single Sided, Single Layer Disc) : 135 min. |
| | CD : 12 cm (COMPACT DISC) | Reading Speed : 1.2 to 1.4 m/sec. |
| | | Maximum Play Time : 74 min. |
| | CD : 8 cm (COMPACT DISC) | Reading Speed : 1.2 to 1.4 m/sec. |
| | | Maximum Play Time : 20 min. |
| | VCD : 12 cm | Reading Speed : 1.2 to 1.4 m/sec. |
| | | Maximum Play Time : 74 min. (Video + Audio) |
| Video Output | SCART JACK | R(Red) : 0.714 Vp-p (75 Ω load) |
| | | G(Green) : 0.714 Vp-p (75 Ω load) |
| | | B(Blue) : 0.714 Vp-p (75 Ω load) |
| | | Composite Video : 1.0 Vp-p (75 Ω load) |
| | | Luminance Signal : 1.0 Vp-p (75 Ω load) |
| | | Color Signal : 0.286 Vp-p (75 Ω load) |
| | Composite Video | 1 Channel : 1.0 Vp-p (75 Ω load) |
| | S-VIDEO | Luminance Signal : 1.0 Vp-p (75 Ω load) |
| | | Color Signal : 0.286 Vp-p (75 Ω load) |
| Audio Output | SCART JACK | 2 Channel : L(1/L), R(2/R) |
| | RCA-JACK | 2 Channel : L(1/L), R(2/R) |
| | Output Level | Analog : 2 Vrms (1 kHz) |
| | | Digital : 0.50 Vp-p |
| | *Frequency Response | 48 kHz Sampling : 4 Hz to 22 kHz |
| | | 96 kHz Sampling : 4 Hz to 44 kHz |
| | *S/N Ratio | 110 dB |
| | *Dynamic Range | 96 dB |
| | *Total Harmonic Distortion | 0.003 % |

*: Nominal specification